

# American Aviation

*The Independent Voice of American Aeronautics*

**MARCH 15, 1946**

## Dangerous Bureaucracy

**T**HE CIVIL Aeronautics Administration is stubbornly trying to retain its wartime grip on the handling of company operational communications for trans-Atlantic air services and its methods of fighting to keep this control are typical of the worst abuses of ambitious bureaucracy. It is proving again how difficult is the task of prying a government agency out of a job belonging to private industry once it gets its tentacles wrapped around, and how brazenly impertinent a government agency can be in defending its position. When a government agency seeks support

*Fortnightly Review*

of Congress or the public it is an humble servant of the people but let it get well-entrenched and it becomes a menace to the unsuspecting public that pays for its existence.

Here is a very simple proposition involving an application to the Federal Communications Commission by Aeronautical Radio, Inc., the stockholders of which are the airlines, to obtain a few radio frequencies with which to carry on operational communications with their aircraft flying over the Atlantic.

The request would simply extend the same type of air-ground and ground-air operational communication facilities which the airlines now have in the United States and between the U. S. and Canada and the U. S. and Mexico, into the Atlantic area.

It is a very simple request and one which the FCC seems to feel is very much in order. It sets no precedent. It requires no money by the taxpayers. It is a private job all the way through.

But the CAA arises in shocked outrage and protests vehemently to the FCC that Aeronautical Radio is trying "to take away" a function which Congress had given to it.

It is one of the most impertinent and impudent actions we have ever seen on the part of a government aviation agency. The CAA has no support from any other part of government. The Army, Navy and State Departments favor Aeronautical Radio's proposal and yet the CAA stands tenaciously on fragile legal arguments and cries that it is being injured. And meantime CAA is delaying quite seriously the whole U. S. policy with regard to airway communications and navigation aids abroad.

It seems that the CAA operates a powerful radio station in New York called WSY. It is a plush job throughout and its voice can be heard across the waters. CAA went to Congress just before the war and obtained authorization and appropriations for this and other intercontinental stations. CAA's story to Congress was that the station was needed primarily for meteorological and

(Turn to Page 6)



## Veteran Pilot Becomes PAA Manager

Humphrey W. Toomey, a veteran of 17 years' experience in every major phase of air transport, is the newly appointed manager of Pan American Airways' Latin American division.

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# THE PHANTOM'S AWAY . . . *before you can say "JET-PROPULSION!"*

Flashing like a rocket into the skies—faster than any airplane designed for carrier use ever flew before—the new F4D Phantom represents another “first” for the United States Navy. It has been christened the *Phantom* because its great speed makes it appear and disappear like an apparition. Yet, despite its great speed, it possesses a *lower landing speed* than any other jet airplane. Designed and developed by McDonnell Aircraft in collaboration with the Bureau of Aeronautics of the Navy, the jet propelled “Phantom” promises to add further laurels to the splendid records of Naval aviation achievement.



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# LORAN <sup>BY</sup> RCA

## Available Now for Commercial Aircraft

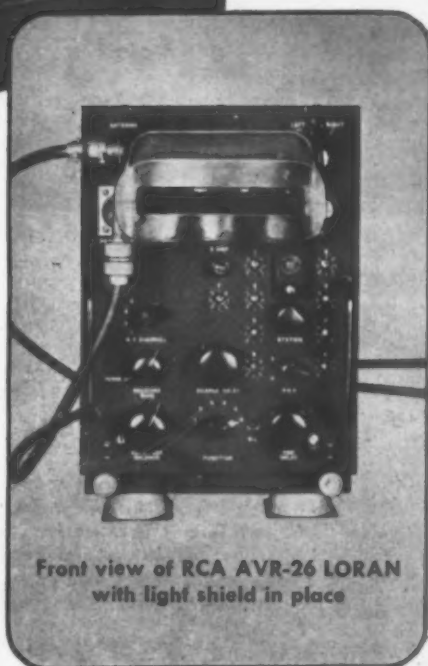


**RCA**, basic designer of all air-borne LORAN equipment used in this country and largest producer of LORAN for military installation now makes this modern aid to navigation available for commercial aircraft.

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LORAN is fast, too—bearings can be taken in less than a minute. Power consumption is low, and mounting space is comparatively small—the AVR-26 measures only 12¼" high, 9⅞" wide, and 23" deep.

If you have a problem in long range navigation it's very likely you'll find the answer in LORAN. For further details write today to Aviation Section, Dept. 2-C, Radio Corporation of America, Camden, New Jersey.



Front view of RCA AVR-26 LORAN  
with light shield in place



**AVIATION SECTION**

**RADIO CORPORATION of AMERICA**

**ENGINEERING PRODUCTS DEPARTMENT, CAMDEN, N.J.**



# American Aviation

Volume 9, Number 20

The Independent Voice of American Aeronautics

March 15, 1946



**Eric Bramley**  
Executive Editor

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News Editor

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Editorial Associate

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West Coast Editor

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Transport Engineering

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International

**David Shawe**  
Editorial Asst.

**Edward Pierson**  
Editorial Asst.

## Department Editors

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### Business and Regional Offices

Business Manager—Thomas E. Lindsey  
Advertising Director—O. R. Elofson

### Main Editorial and Business Offices:

American Building, 1317 F Street, N. W., Washington 4, D. C. District 5735.

New York: 2207 RKO Building, 1270 Sixth Avenue, New York 20. Circle 6-9446.

Chicago: 139 North Clark St., Chicago 2, Ill. State 2154.

Los Angeles: 1404-S Park Central Bldg., 412 West Sixth St., Los Angeles 14, Calif. Triunty 7997.

Correspondents: James Stanton, London, England; R. N. Hughes-Jones, Melbourne, Australia; Leo White, Auckland, New Zealand; Alfonso Vasquez, Jr., Mexico City; and correspondents in major European and Latin American capitals.

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**International Aviation:** A weekly newsletter of aviation trends and news in foreign countries. Published on Friday of each week and dispatched via first-class surface mail. Editorial representatives in foreign capitals. Subscriptions: \$100 one year (52 issues). Airmail delivery available at additional cost to cover postage. Service Bureau available to all subscribers. FRANK M. HOLZ, Managing Editor.

**American Aviation Directory:** Published twice a year, Spring and Fall. Complete reference data on administrative and operating personnel of airlines, aircraft and engine manufacturers, accessory and equipment manufacturers, organizations, schools, U. S. and foreign aviation groups and departments, etc. Completely cross-indexed by companies, activities, products and individuals. Single copy \$5.00. Fall-Winter 1945 issue now available. DAVID SHAW, Managing Editor.

**American Aviation Traffic Guide:** Monthly publication of airline schedules, rates and regulations for passenger and cargo transportation by commercial air transport. Supplements furnished subscribers covering changes occurring between issues. Subscriptions: U. S. and Latin America \$5.00 one year (12 issues and supplements); Canada \$5.50. All other countries \$6.50. Published and revised from editorial offices at 139 North Clark Street, Chicago 2, Illinois. (Telephone: State 2154). H. D. WHITNEY, Managing Editor.

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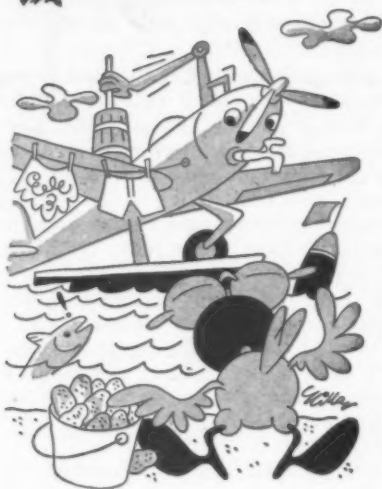




# The Birdmen's Perch

By *Major Al Williams*, ALIAS, "TATTERED WING TIPS,"

Gulf Aviation Products Manager, Gulf Bldg., Pittsburgh 30, Pa.



EVERY ONCE IN A WHILE you hear about an inventor who's working on a super-extra-family-type plane, don't you? An amphibious roadable plane that you can swim, fly, drive, and teach to change the baby after 18 minutes of dual?

Well we just read an announcement of a machine which will wash, rinse, and dry your laundry . . . will wash dishes . . . peel potatoes . . . freeze ice cream . . . and churn butter! (Honest!)

So here's an idea which we'll donate free to the first "Society For The Furtherance Of Mankind" we hear about:

Put 'em together! Combine the two super-gadgets . . . the swimming plane-mobile and the potato-churning laundry freezer! Then price it so that everybody can own one.

Hot ziggety! No more wars, divorce, crime waves, or bad movies! Nobody will

have time for them. They'll all be up at 20,000 feet, churning the dishes! On instruments!

And stopping only long enough to tank up with Good Gulf Aviation Gasoline and enough Gulfpride Oil to lubricate all that lovely machinery!

Fancy, huh?

## ABOUT YOUR PLANE . . .

Now look here!

It doesn't matter a bit how much trouble we go to in selecting the better crudes . . . how much extra work we do in refining them . . . how many additional steps—such as the Alchlor Process—we take in making Gulfpride Oil the finest engine lubricant in the world—if you forget something as simple as your lubrication-system inspection.

This is important! Probably one of the



most important maintenance operations you do!

The points you should *never* miss:

Check plugs, drains, screens, and filters. Check the tank for proper mounting, leaks, dents, and friction. Tubing and lines, hose connections and clamps should be inspected, as well as shut-off and drain valves.

Check the filler caps, the dip stick, and vent lines.

Then wind up with a visual check of the instruments—and a fresh fill of Gulfpride Oil!

## L. K. F. A. W. K. P. Dept.

Miss Joan Siesel, Norrisville, Pa., gets a commission as Perch Pilot (bottom rung) for this Little Known Fact About Well Known Planes:

"The propeller on a light plane cruising at 2100 rpm's, will travel 131,950 miles in half an hour!"

Leal R. da Roza, of San Francisco, sent this "Fact"—and proof of it!—so he gets a commission, too:

"It takes longer to fly across the city of Honolulu than it does to fly from N. Y. to Chicago! (Honolulu's city limits are 2200 miles apart!)"

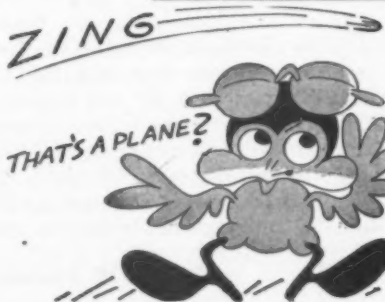
And here's another contribution from Billy Steed, of Leachville, Ark. Steed stands a good chance of becoming our first Senior Perch Pilot, the exalted reward for five "Facts" good-enough-to-print, and accompanied with *PROOF!*

"The turbo-super on one engine of a P-61 uses enough air to fill an eight-room house in 60 seconds of flight!"



Well, that's all there is to it, you flying fellers. Send in your "Fact" to the address above (way up there on the mast-head) and if it's good—and proved—you may achieve the pinnacle of aviation adulation, a commission as Perch Pilot (br).

Give!



## FLUTTER'S DITTY BOX\*

The most powerful fuel I have seen  
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Gulf Oil Corporation and Gulf Refining Company...makers of



**GULF AVIATION PRODUCTS**

# Editorial

(Continued from Page 1)

navigation purposes. And with full justice to CAA, WSY has been a vital station serving excellent purposes and there is no question but that WSY should continue in operation.

But with the coming of war, and the inability of Pan American to operate its own communication stations for the North Atlantic service, WSY took over the job. Here again was a worthy service. No one will dispute the wartime necessity of the CAA handling company operational communications.

The war is over now, however, and there are an increasing number of airline services over the Atlantic. Does the CAA welcome the relinquishing of the one part of its wartime job pertaining to company operational communications? Not for a minute! Does bureaucracy ever want to turn back anything to private industry? Not while there are good lifetime jobs around, my friends.

CAA now falls back on the thesis that Congress has charged it with this over-all responsibility and it seems very hurt that anyone should question the matter. But the fact of the matter is that Congress had no intention of turning company communications over to a government agency. There is no precedent in law for any other form of transportation, domestic or international, and there is no reason why the taxpayers of the United States should have to foot the bill when the private companies want to do the job themselves through the non-profit and efficient Aeronautical Radio.

When one asks CAA why it is that it insists on handling company communications for international services when it has never done so for domestic services, the real pay-off in governmental impertinence comes. "Domestically, the CAA has found it to be in the public interest to permit the airlines to operate their own radio facilities for a substantial portion of the operational safety services because of the great volume of such services required by the airlines," the CAA told the FCC. And the italics are ours.

To permit? Now really! Congress never in its wildest whims ever intended that the CAA—with its one employe to every three civil aircraft—should handle company communications. To permit, indeed! Where is there any precedence under law for such a thing?

But to make matters worse, the CAA attorney at the recent FCC hearing virtually threatened that if the FCC should decide to grant Aeronautical Radio's applications, the Administrator might find it necessary to refuse approval. Such gross abuse of bureaucratic power cannot be tolerated, and the shocked FCC found sufficient words to slap down the CAA's attitude in a sharply-worded opinion.

It is time the CAA kept within its bounds. It is charged with safety matters. It is charged with providing navigation aids. Fine. Nobody questions these items. They affect all aircraft, civil and military. But company communications are not the business of the CAA and its stalling tactics and its hiding behind government prerogatives are not only holding up the government's all-over international airway policy, through the Air Coordinating Committee, but are quite a disgraceful demonstration of how government agencies can behave when given power.

## CAA and Private Business

**P**OSTWAR CIVIL Aeronautics Administration personnel are feeling their oats and with one federal CAA employe for every three licensed airplanes at the beginning of this first postwar year, one wonders what will happen next.

Local operators are upset about CAA's plan to repair and maintain its own airplanes. And well they might be.

The CAA has a logical answer to the critics but the trouble with logical answers from government agencies is that the answers are sometimes just a little too logical. CAA has 231 aircraft, now each flying at an average of 120 hours a year—mighty small usage—and admittedly the local operators don't have spare parts on hand for most of the new CAA equipment.

As a matter of fact the local operators probably wouldn't get overly-exercised if the present CAA plan were to be all that it plans to do. The repair and servicing business hasn't been a particularly profitable sideline for the operators. Many of them, in fact, lose money on the business. But such CAA business adds prestige. It is good business to have in the house.

But once CAA sets up a stockpile of \$6,000,000 worth of spare parts in Oklahoma City, and hires about 10 or 12 mechanics for each region—then what? That's the rub. Will overhaul be next? And will the CAA build up such a nice system of establishments that it will then take on civil airplanes of other government agencies? CAA says it doesn't think so. It doesn't contemplate any such thing. But the trouble is that the next step into overhaul is also so very, very logical. And such a short step, too. And that will really put the CAA into the repair business and it will really pinch the operators.

CAA says it expects the surplus parts stock to last five years and that then it may revert to the old system of giving out its business on bid to local operators. Well, just ponder this thought: Suppose in three years the stock pile has decreased considerably and a new part not on hand is needed. Will the CAA then go to private business, or won't it order new parts to keep that stockpile right up to snuff? Can anyone imagine the CAA stockpile decreasing and the number of employes decreasing even if the stockpile decreased?

Well, you can take your choice. Either let the CAA open up its repair shops and take it on its word that there is nothing more. Or you can look at every past record of every government agency. Or look at CAA's tenacity on hanging on to company communications on the North Atlantic. But for some reason that next step, too, is so simple and so logical. In fact it is all too logical for words. And for probably an excellent reason Congress left out the word "operational" when it created CAA as a promotion and a regulatory agency. It's pretty hard today to figure out whether the people are running CAA or whether the CAA is running—or trying to run—the people.

WAYNE W. PARRISH.

# Here Comes Essair!

## *Phillips Hails a Bright New Star in Southwest Aviation*

**I** WANT to run an airline—and a good one!" You can't hate a guy who talks like that—particularly when the guy is a person like Bill Long, president of Essair, Inc.

Essair, as you probably know by now, is the new feeder line "flying the range"—Amarillo—Lubbock—Abilene—San Angelo—Austin—Houston.

Headed by a group of executives whose middle names are Aviation, blessed with an unusual pool of flying talent, we confidently predict that Essair, and Major Bill Long, are going to be a mighty important factor in the Southwest's postwar aviation picture.

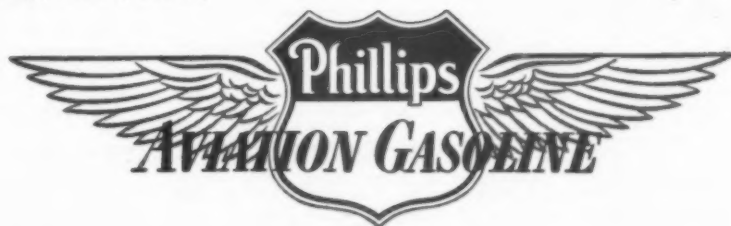
And nobody'll be any happier than we if they are—because Phillips Aviation Gasoline powers their ships. If you think a pretty good tip-off on a product is the kind of companies and people who use it, we're glad to have you know Essair is on our side. We've *earned* their respect with our products and services—we'd like a chance to earn yours. If you have a problem involving aviation fuel, write to us at, Aviation Department, Phillips Petroleum Company, Bartlesville, Oklahoma.



Two of the Lockheed Electras now "flying the range" for Essair, Inc.



Major Bill Long of Essair, who has been identified with aviation in all its phases since 1917.





# Wings of Yesterday

## Fifteen Years Ago

Ruth Nichols established the women's altitude record of 28,743 ft. at the Jersey City Airport, New Jersey. She piloted a Lockheed Vega with Pratt & Whitney Wasp engine. (Mar. 7, 1931)

Under the auspices of the Aeronautical Chamber of Commerce, the Third National Airport Conference opened at Tulsa, Okla.

## Twenty-five Years Ago

Two J.L-6 (Larsen) monoplanes equipped with skis, completed a long exploring flight from Peace River to Great Slave Lake in Alberta, Canada. (Mar. 15, 1921)

The U. S. Public Health Service began an aerial survey of the numerous water courses in the Mississippi Valley. (Mar. 16, 1921).

The U. S. Marine Corps established an aviation station in the Pacific, at Sumay on the Island of Guam. (Mar. 17, 1921)

Lt. Arthur G. Hamilton of the U. S. A. S., made a record parachute jump of 23,000 ft., at Rantoul, Ill. (Mar. 23, 1921).

Revision of the sailing charts of the Mississippi River delta was begun. A U. S. Naval seaplane was being used in the survey. (Mar. 23, 1921)

The National Southern Air Tournament, scheduled for two days, opened at Clearwater-Belleair, Fla. (Mar. 26, 1921).

By means of a reversible propeller, a Curtiss-Wright Army airplane stopped within 15 ft., at Belleair, Fla. (Mar. 26, 1921)

# Letters

## AACS Defense

To the Editor:

A copy of AMERICAN AVIATION for November 15 appeared in the Red Cross Aero Club here a few days ago. A number of us who have enjoyed being a part of the Army Airways Communication System and who are in a position to be well acquainted with the "Great Transition" referred to in your editorial feel that serious exception should be taken to your reference to bad planning by the AACS in its failure to provide for future operation of AACS facilities. We do not feel obliged to explain why AACS has not done the job. We do feel that the original charge is entirely groundless, for the following reasons:

1. The provisions for the future operation of AACS facilities by other nations is beyond the scope of AACS directives as defined by Army Regulation 95-200. Authorization for such a program would have to come from the Commanding General of the Army Air Forces. In the few isolated cases where facilities have been turned over to other countries, the action was taken at the specific request of the nation involved, and AACS personnel remained with the equipment to explain its operation.
2. The resistance to any such program would be amusing to those of you who haven't lived with it. AACS is not just an organization operating a string of transmitters

for radio aids to air navigation. AACS uses methods—methods for controlling airport traffic, methods for separating instrument traffic, methods for relaying flight messages and weather information, methods for handling all the problems from radio checks to radar ground-controlled landings. Other nations—particularly the English—have their own methods, entirely different, and usually, to our way of thinking, quite inadequate. If we try to train these nationals, they will resent our imposition unless an international agreement is reached by the governments concerned on the ends to be gained and the methods to be used.

3. Your editorial advocates "selling the equipment to other nations and permitting their nationals to operate it for the benefit of U. S. and other airlines." Assuming the other nations would agree to such a plan, which is highly problematical as they feel that U. S. and other airlines are in direct competition with their own, how can AACS train personnel to operate this equipment for the benefit of U. S. and other airlines when U. S. airlines do not yet know what they want in the matter of communications facilities?

Obviously the only practicable way the problem can be worked out is to get the airlines together, work out a plan of operation, take it to the appropriate government agency whose job will be to coordinate it with the other governments involved. Much AACS equipment could be utilized and geared to the new plan. And when the plan is adopted, AACS personnel will undoubtedly be of considerable assistance in training new personnel. But until that time comes, it seems rather unjust to tell the aviation industry that its communications sorrows in foreign theaters are all due to the AACS.

JAMES B. HAMILL  
T/Sgt. A. C.  
Burtonwood, England

## An Apology

To the Editor:

As I am a passenger agent for United Airlines (sic) I was a bit disturbed by your reference to United's Constellations to be put in service next summer. We are buying DC-6's not Constellations. The article was on page 20 of the Mar. 1 issue.

STUART HUNT  
Hollywood, Calif.

(Editor's Note: To sharp-eyed Reader Hunt and United an apology; to the editor who wrote it, the conque.)

## Out of Proportion?

To the Editor:

I have read with particular interest your Feb. 15 article on pilots pay for four-engine equipment, and it brought to mind an article written by a Consairway flight engineer just before their termination of operations.

(The article referred to was one which stated the case of the flight engineer, asserting that pilots' wages are out of proportion to those in other categories considering the amount of training and knowledge required.)

The author of this article, after four years of technical schooling and three years airline experience, resigned as maintenance chief in charge of a hangar for the "aforementioned" airline at \$1.21/hr. and came to Corsair. Following the closing of Corsair's ATC operations he took all this experience plus the one year's flight engineering experience he had gained, and his A & E, and went job-hunting. He wrote many letters and toured every airline in the Bay Area and Los Angeles. The last I heard his top offer was \$1.10/hr.

This, of course, was a starting salary, but if you were to take the average hourly rate of the average airline A & E man from lead man up, and compare it with the salary enjoyed by present day airline pilots without a quarter of the technical knowledge, it should make one wonder. The airlines apparently fail to realize that their A & E men are "journeymen" in a half dozen trades and in the greater part are not even paid the journeyman's scale in any one of them.

There are two old airline adages that ap-

parently still hold good and true. "It takes one year to make a good pilot and four years to make a good mechanic," and "There never was a time when a good mechanic couldn't get more money driving a truck."

While I am not very well acquainted with the issues in the present controversy between the pilots and airlines on four-engined equipment, I assume that they are asking for their wage increase on the basis that this equipment requires more technical knowledge to operate and entails a greater responsibility. Would anyone dare dispute the obvious fact that the maintenance department has more to learn and their responsibilities are greater?

This is not an attack on pilots' salaries, but an attempt to use their exaggerated positions as a criterion for inquiry into the obscure reasons for the gross under-payment of airline maintenance and other ground personnel.

For the future good of aviation, it might be well to realize that after the glamour has worn off it will become rather difficult to obtain sensible young people so necessary for safe and efficient operations as "passenger agents, two years college or equivalent" at \$135/mo. or "A & E mechanics" at \$1.10/hr.

Aren't things a bit out of proportion?

R. F. COTTONACHT,  
San Francisco, Calif.

# Books

THE CANADA YEAR BOOK—1945: The Official Statistical Annual of the Resources, History, Institutions, and Social and Economic Conditions of the Dominion; by Dominion Bureau of Statistics, Ottawa, 1945; 1200 pp.; \$2.00.

This is the most recent edition of the authoritative handbook on Canada, with a wealth of data and statistics—particularly on matters of industry, trade, and economics—and illustrated with numerous tables, maps and charts. Some of the coverage is indicated by the following selected chapter headings: Constitution and Government, Survey of Production, Agriculture, Forestry, Fisheries, Mines and Minerals, Transportation and Communications, Currency and Banking, Power.

The section on civil air transport is well done but one wishes both for more coverage and more recent information. There are brief summaries of the operations of Trans-Canada Air Lines and Canadian Pacific Air Lines and only a brief general statement regarding the "independent" operators. More thorough treatment is given to the story of the Northwest and Northeast Staging Routes and airports. Civil air traffic statistics are for the years 1942 and 1943.

F. H.

# Obituary

## Hans Adolph Amundsen

Hans Adolph Amundsen, 69, works manager at the Paterson, N. J., plant of Wright Aeronautical Corp. for 13 years, died on Feb. 24 at his home in Ridgewood, N. J. He had retired about a year ago.

## Harold R. Neely

Harold R. Neely, administrator of the third region, Civil Aeronautics Administration, died in Sarasota, Fla., last month following a long illness. In July 1928 he was appointed airplane and engine inspector for the CAA, and in 1935 he was promoted to the position of supervising aeronautical inspector. Mr. Neely was made administrator of the third region in 1938, a position he held until ill health forced his retirement last October.

# Weaving the fabric of WORLD UNDERSTANDING

TWA's inauguration of scheduled commercial air service to Europe is the first link in a trans world air system which soon will serve 20 countries in Europe, Africa and Asia.

We would be looking at things in narrow light if we now failed to grasp the deep significance of such service.

Largely because of inaccessibility, much of the world's natural resources as yet remain undeveloped — and a large portion of the world's population has little to eat, little to wear and little shelter.

As long as such conditions exist, peace for the world will be a fragile thing. The seeds of conflict between those who "have not" and those who "have" will remain with us.

But easy accessibility — modern mastery of time and distance — is the first step toward development of these untapped riches.

It brings into play the men, the plans, the methods by which distant people can advance themselves through conversion of natural resources into usable goods and services.

It carries knowledge and understanding, not alone in the attaché cases of diplomats, but in the blueprints of engineers, the briefcases and catalogs of businessmen, even the dress, manners and spending money of tourists.

It helps to educate people in the desire for better things — and with such urging, the wealth to feed and clothe and house the world's people will be created *by them* in the process of new development.

All this, in TWA's view, is good not alone for the world, but for *this* nation.

We are the present natural source for many things that are needed to develop world resources.

We have much to send to foreign lands in exchange for things they have which we need and want.

In the same way that our own great West became both a rich source and a thriving market with the coming of transportation, presently remote sections can become both suppliers and users of the world's wares.

And so vast is this potential that it could create decades of work for our own industrial plants — widespread prosperity, jobs and job opportunities on a global scale.



And, as we see it, the key to it is air transportation.

Here ready for us to use is the master of distance and the conqueror of time.

Here is the means of bringing people together — of establishing understanding, not alone of languages, but of customs, methods, viewpoints and purposes.

That is why we look on these TWA Sky Chiefs as something more than mechanical things flying eastward over the Atlantic.

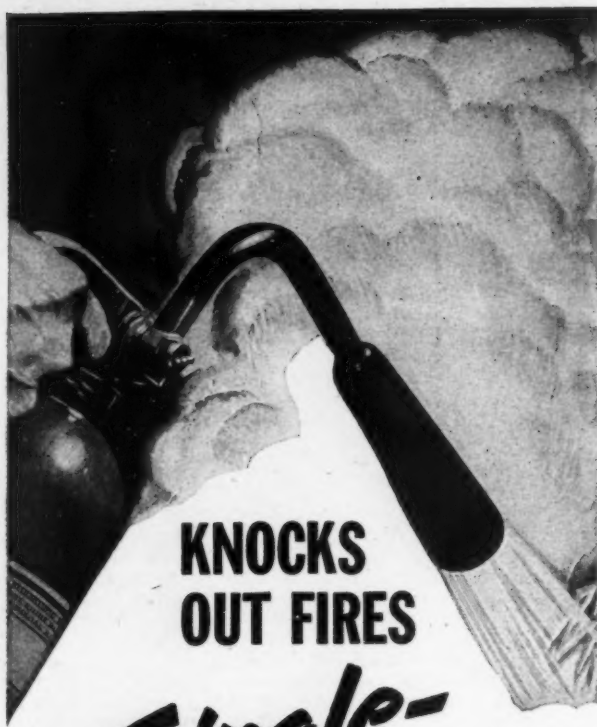
We see them instead as busy shuttles helping to weave the fabric of world understanding, world advancement, world peace.

This is the concept we accept as our sober responsibility to the people of America and the people of the world.

*Lack Faye*  
President TWA

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## Background

(Significant Developments and Forecasts)

**CAA Into Airline Business?:** Some of the skeptical souls in aviation have raised their eyebrows over the CAA's acquisition of two four-engined C-54s and seven C-47s. There were rumors that CAA planned to fly personnel and equipment between the U. S. and Alaska, and perhaps other points, thus putting it into the airline business, but CAA denies any such plans. CAA insists the C-54s are for training purposes. It will be interesting to see . . .

**Red Tape to the South:** The red tape, expenses, and obstacles to flying civilian airplanes south through Central America is enough to try the most patient pilot. And it isn't all in the Latin American countries either—the U. S. is one of the worst offenders for both north and south bound planes at the Mexico-U. S. border and at the Canal Zone. W. A. M. Burden, Assistant Secretary of Commerce for Air, is trying to get something done. One of Latin America's best boosters, John C. L. "Tex" Adams, who operates the Adams Enterprises in Spanish America at Panama City, is also doing what he can to ease the red tape. So are various flying clubs in Central America. But much more has to be done to make flying southward at all easy.

**Ownership of German Airline:** Although the big German airline system, Deutsche Lufthansa, was rigidly controlled by the Reich, its stock ownership was quite diversified and included a number of cities and local governments such as Saxony and Dusseldorf. German railways owned quite a block and the two biggest holders were the German Airtravel Corp. and the German Aero Lloyd Corp. The airline charged 8c a mile for passenger fares and got 70% of its revenue from passengers before the war, but it was heavily subsidized by the German Air Ministry as it didn't come near paying its way. It had about 136 airplanes at the start of the war with 14 different types. Although big and well subsidized, it was a daylight operation only and didn't approach U. S. airlines for efficiency and economy.

**The Cost of Getting New Routes:** Some of the expensive and time consuming procedures which applicants must go through to obtain airline certificates are illustrated in the latest Civil Aeronautics Board regional hearing—the Middle Atlantic States Case held at Philadelphia. There were 4,500 pages of testimony taken during the hearing at 290 words to the page, making 28 volumes—which total 1,305,000 words. (Pity the poor examiners!) There were 30 applicants, nearly 100 exhibits, and close to 150 witnesses. One hundred lawyers, other than witnesses, took part in the proceedings which began Jan. 28 and ended Mar. 7. Four airlines bought transcripts of the proceedings for prompt delivery the next morning at 35c per page; eight others got deferred delivery at 30c per page. The 12 lines thus paid a total of \$17,100 for transcripts. Add to all this the transportation, housing and food costs of the participants, the cost of filing applications, preparing data and exhibits, and numerous other items and it would appear that getting into the airline business is an expensive proposition.

**Applications Wash Out Fast:** If you've been wondering how long it will take the Civil Aeronautics Board to decide on the hundreds of thousands of miles of new route applications from hundreds of applicants, you can ponder two points. First, the CAB can wash out a lot of applied-for mileage in a single regional case. Second, a lot of the enthusiastic applicants got cold feet and withdrew. In the year ending June 30, 1945, the CAB granted 1,878 new route miles (not counting extensions), denied 11,580, and accounted for 98,915 miles that had been withdrawn. In addition, 15,148 were dismissed. So the percentage decided favorably was mighty, mighty small. On the foreign side, believe it or not, 224,499 route miles were dismissed, withdrawn or denied in one year! Only 29,747 were granted.

**Army Mail to Help Airlines:** The air mail loads of U. S. overseas air carriers are expected to increase substantially as a result of the Army decision to use the airlines to carry soldier mail. Cuts in Air Transport Command service prompted the Army's action. Airlines will be paid for the mail at whatever rates are set for overocean routes.



**Fifth Freedom With Canada?:** Recent signing of a five freedoms air transport agreement between the U. S. and Great Britain may lead to reopening of discussions with Canada. The U. S.-Canadian agreement, signed in January, 1945, granted several routes to both countries but did not grant the fifth freedom (right of an airline to pick up traffic in a foreign country and carry it to another foreign country). British agreement may have an important effect here.

**Bixby Rises in PAA:** Three of Pan American's upper-bracket executives bear watching. All are moving into positions of greater importance and, perhaps significantly, all are operations men. Harold M. Bixby, long-time vice president who has played big roles in the Far East, has moved 'way up into the inner councils. Franklin Gledhill, vice president and purchasing agent, also has been on the upgrade recently, and John Leslie, who runs the North Atlantic show and was an industry adviser with Bixby, to the U. S.-British conference at Bermuda, has been moving upwards steadily. All of which may mean that with the coming of competition in many areas, PAA is giving more attention top-side than heretofore to practical operating problems.

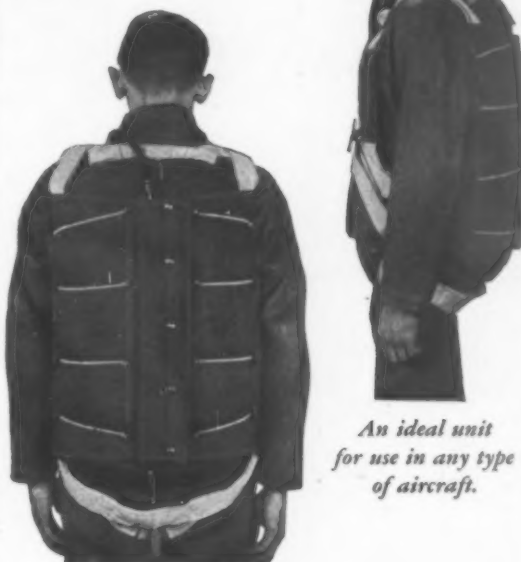
**Ronald Walker Takes a Hand:** The well-known London newspaperman and aviation writer, Ronald Walker, is editor of a new British monthly aviation magazine called *Air Transport*. The first few issues are quite informative. The weekly *Aeroplane* is giving special attention to air transportation in a separate section once a month.

**Patterson Softens; Trippe Voted In:** Two unexpected incidents popped up at the Air Transport Association members' meeting recently. W. A. Patterson, president of United Air Lines, indicated that while he hasn't changed his mind on the single chosen instrument theory for international air transport, which he favors, he isn't going to crusade for it any more and will accept the government's multi-carrier policy. At the same meeting Pan American Airways, represented by Juan T. Trippe, president, was voted in as a full member, subject to future confirmation, after a long term on associate membership. All of this comes about as a result of the merging of domestic and foreign air transport problems. A special committee to handle international matters will be named.

**Short Aviation Observations:** While little progress was being made by the airlines in arriving at a final formula for payment of pilots on four-engined aircraft—the major wage issue of the carriers—other wage controversies have attracted little attention . . . TWA, for instance, recently signed a contract with the International Association of Machinists providing substantial wage adjustments and a 40-hour week . . . On the manufacturing side, incentive pay which didn't work out so well during the war is beginning to take hold . . . Taylorcraft Aviation has a new bonus plan for 1,300 factory and office employees; the company deposits \$5 into the account for each plane sold, and every three months it will be distributed equally among all workers. . . . The First Fairchild F-24 "family plane" built by Texas Engineering & Manufacturing Co. under subcontract at Dallas came off the line last fortnight and production will step up rapidly. . . . Cloyce J. Tippet, CAA's senior aviation training supervisor in Brazil, says that country will provide a big lightplane market for both conventional planes and amphibians. . . . While Lockheed Aircraft Corp. has postponed its entrance into the lightplane field, possibly for as much as two or three years, it is continuing to plan for such an "invasion". . . . Observers are convinced that when it finally enters this field, its product will be neither the one-place "Little Dipper" nor the two-place pusher which has been developed, but something even more advanced. . . . The Sea-Air Committee of the National Federation of American Shipping, which recently issued a well prepared memorandum on its purposes, is getting action. . . . Its activities resulted in introduction of the Celler Bill in the House which would permit the Maritime Commission to issue certificates for air routes.

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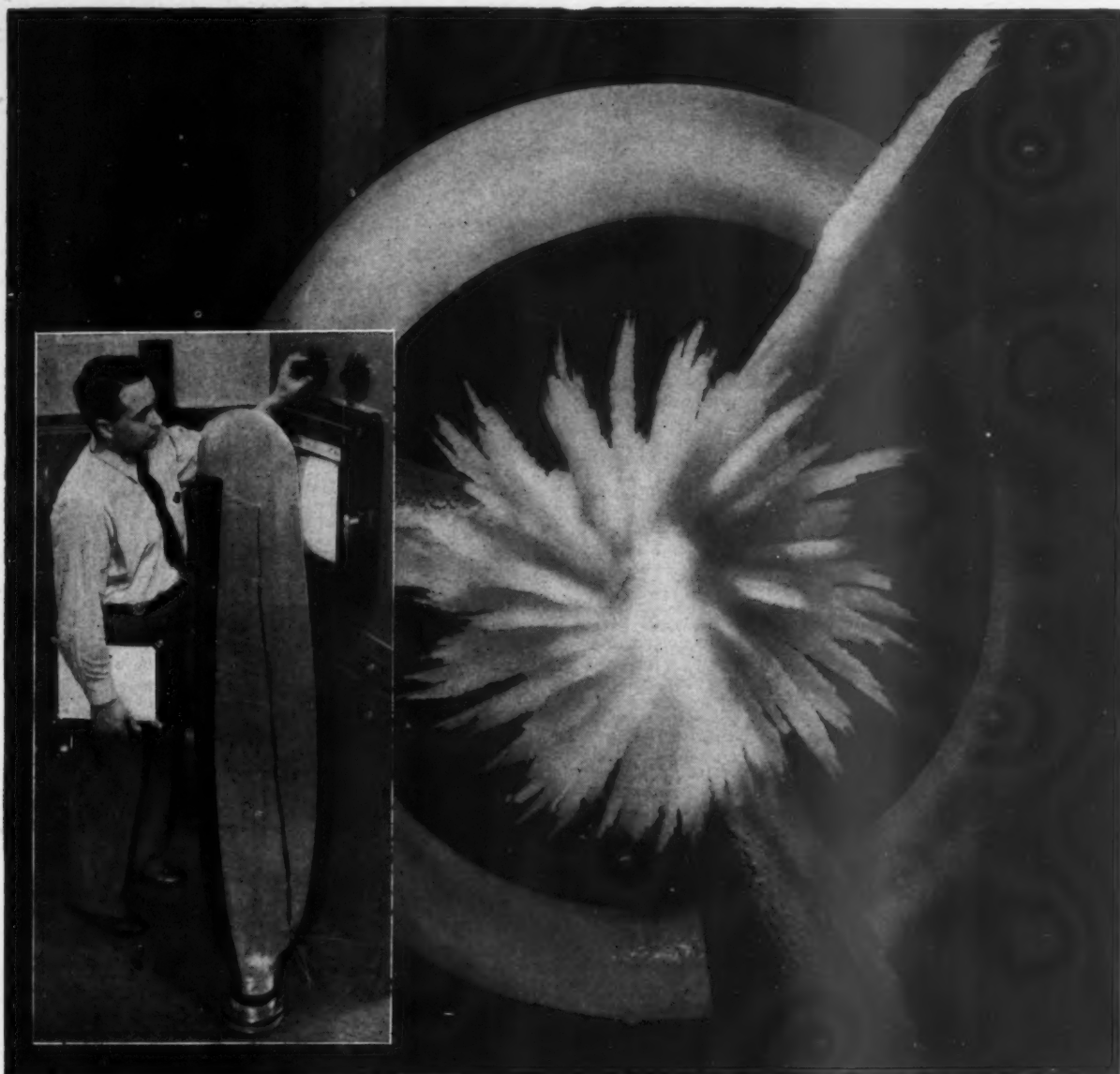
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## Push-button defrosting for planes

**A**N 80-MILE WIND, roaring through the B. F. Goodrich refrigerated wind tunnel, created the Jack Frost effect on the propeller model above.

The exaggerated ice flower on the hub isn't as serious as it looks; but fingers of ice, creeping up the blades, were a big worry to pilots for years. For in flight, ice on the blades means loss of power, bad balance, and excessive vibration.

To a pilot, the smaller picture looks a lot better. It's a propeller equipped with a new B. F. Goodrich development called an electrically heated propeller shoe. It's shown here being tested (the wires are

part of the testing equipment; they are not on the blade in flight).

With these shoes on his propeller blades, a pilot can defrost them as simply as a housewife defrosts a refrigerator . . . and lots quicker. The pilot just touches a switch and electric current begins to generate heat in the shoe, which melts off ice.

B. F. Goodrich equipment protects many other parts of the airplane from ice. Best known are the De-Icers, which crack ice off as it forms on wings and tails, keeping these surfaces clean and smooth for safer flying. De-Icers were developed and are made exclusively by B. F. Goodrich.

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This Issue

## Crisis Nears for Non-Scheduled Lines

Future of Vet-Operated Outfits, Now in 'Shakedown Period,' Will be Known After Close of Florida Season

By ERIC BRAMLEY

THE MANY non-scheduled airline operators that sprang up in the eastern part of the U. S. following the end of the war are going through a "shake-down" period, and it won't be long before it will be determined who will be able to continue flying and who will drop out.

A trip to New York, including talks with some of these operators and visits to a couple of airports leads one to the conclusion that all of these companies are not going to survive. This opinion is also held by some of those in the business.

A brief visit to New York is not sufficient to go into all phases of non-scheduled operations, but it is sufficient to establish that:

- Practically all of these enterprises are being operated by veterans.
- Many of the operators who went into business to fly anywhere at any time hit upon the lush New York-Miami winter traffic as the means of getting started. And they are as near to being scheduled as they can be without running afoul of the Civil Aeronautics Board.
- According to some estimates, these "airlines" carry 300 people in and out of New York daily.
- There are some claims that they flew more people from Florida to New York during the winter than did the airlines.
- They have had no fatal accidents.
- They are using the trial-and-error method of getting their operations on something approaching a sound basis.
- Some of the competition between these

operators has been on a cutthroat basis, although they are trying to correct this.

• They do not believe they will ever give the domestic airlines serious competition, but they do not appreciate what they claim are some of the "unfair" practices that the airlines are using against them.

A visit to La Guardia Field shows that the non-scheduled group is having a tough time with terminal facilities. There is little evidence of cooperation from the airport management. All the operators use one gate—Gate 8. They have no office space (Empire Airlines, an intrastate line, seems to be the only company outside the airlines with office space in the terminal). Their airplanes are parked in the mud between the apron and one of the runways. They are not permitted to use the public address system in the terminal. It is claimed that porters cannot handle charter baggage. One of these operators says the management has made it so tough (and he claims that the airlines have a hand in it) that some of the lines are moving to Newark, where things are a little better.

Because the management of La Guardia says it is too busy to talk to writers and seems to give anyone seeking information a fast brushoff, it was impossible to get its side of the story.

### Shell Gives Service

The non-scheduled operators' lifesaver at La Guardia has been Shell Oil Co. Shell has an office at Gate 8 which has become unofficial headquarters for many operators. The pilots—and some passengers—gather in the company's "lounge", and this becomes quite a problem with better than 10 lines using La Guardia at one time or another—American Export & Import Co., Air Cargo Transport, Fireball Air Express, Long Island Air Service, Paul Mantz Air Service, Mason-Dixon Line, National Air Cargo, Springfield Feeder Line, Trans-Marine Airways, Trans-Caribbean Air Cargo Lines, Trans American Airways, U. S. Airline, Los Angeles Air Service and National Skyway Freight Corp., to name some.

Shell, of course, sells gasoline and oil to the operators, but it is also performing services for them, such as maintaining connections with CAA and weather, collecting landing fees (\$20 for a C-47), furnishing a loading ramp, etc. At least some of the operators are showing appreciation by buying Shell products at other airports.

Activity around Gate 8 reflects the military character of some of these operations. There are pilots wearing Army flight jackets, field jackets, battle jackets, officer's trousers, Army caps and other military clothing. Almost without exception these pilots flew for the USAAF during the war.

There are two other fields in the New York area that non-scheduled lines are using—Newark and Teterboro Air Terminal. Caribbean Air Transport, Veterans

### Post-War Phenomenon

The rapid growth of co-called non-scheduled air services has been one of the phenomena of post-war air transportation. The accompanying story by Eric Bramley provides an analysis of some of the problems facing this, the latest of aviation enterprises, and beginning on Page 28 is a comprehensive news roundup of the various companies in operation.

Air Express, Intercontinental Air Transport, Universal Airline, Transair and others, including some in the La Guardia list, are using Newark. There is a lack of office space at the airport, but the co-operation of the field management is reported better than at La Guardia. Teterboro field at present is not in good shape for operations. There are no paved runways, although two are being constructed and are scheduled for completion shortly. Willis Air Service had a plane on the field, and Robinson Airlines operates from there but when the ground is soggy Robinson shifts to Caldwell.

What are these operators' problems and why won't all of them survive? Here's what one of them says:

"Listen, just leave us alone and we'll run ourselves right out of business. We've got to clean house. We need some business ethics.

"I saw fellows from three different lines almost manhandle a passenger at La Guardia the other day. 'I'll fly you to Miami for \$85,' said one. 'I'll take you for \$80,' said another. 'Go with me for \$75,' said another. That kind of stuff can't go on. It makes a bad impression all around.

"Some lines are using bucket seats. When you haul 28 people to Miami in bucket seats—in a cold, drafty airplane—you've got 28 passengers who will never ride with another non-scheduled operator.

"I went to a travel agency the other day to see if I could make arrangements for it to sell my business. I was asked what commission I'd pay. I said I thought 5% was the usual figure. 'Well, we can get 15% from one of your competitors,' I was told. What can you do in a case like that?"

To their credit, it can be said that the operators recognize their faults and are attempting to do something about them. The recent organization of the Contract Air Carriers Association, composed of companies flying into Miami, was a step in that direction. Through CACA they will share use of ground facilities and make sure that all passengers are carried (if one carrier is sold out, they will be directed to another).

This same operator says that with the Miami winter trade there was enough traffic to keep many lines in business, but that when this situation changes (and the airlines get more equipment) some will find it hard to continue. The ones that are offering good service and are not participating in cutthroat tactics event-

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These are typical newspaper advertisements used by non-scheduled charter operators to promote traffic.



ually will come out on top, he believes. He frankly admits that business this winter has consisted largely of black marketers and other war-rich individuals who don't care how they spend their money. But he estimates that 10% of this business is good business that will

#### Non-Scheduled Operators Organize

The Institute of Air Transportation, a non-profit organization composed of non-scheduled cargo and passenger operators, has been formed with headquarters at 500 Fifth Ave., New York, to enable these operators to coordinate their efforts and solve problems facing them. A network of inspection and maintenance points throughout the country will be sponsored, and mutual problems regarding air cargo routing, rates and packaging are being considered. Charter members of the institute, of which S. O. Samuelsson is acting chairman, are American Air Express & Importing Co., National Skyways Freight Corp., Pacific Air Cargo Co., Trans-Caribbean Air Cargo Lines, Trans-Marine Airways, U. S. Airlines Inc., Veterans Air Express, Veterans Air Lines, and Willis Air Service. These member companies are operating 75 aircraft and have 30 on order. Also listed as members are Bochever, Cameron & Bobrick, attorneys, and Cannon & Smith, insurance brokers.

form the nucleus around which he will build future traffic.

"There's lots wrong inside the family that needs to be corrected," says Edgar J. Wynn, head of Trans American Airways, a former ATC pilot, author of *Bombers Across*, and lecturer. "But I'll tell you something else. From the established airlines we want good, tough, clean competition. If one of them wants to park his DC-4 or Constellation next to my Lockheed and say to the public, 'Why ride in that little plane when you can go on my big one,'—that's all right with me. That's competition. But when they refuse to sell us gasoline at intermediate fields, and won't give us any kind of a helping hand, they're not playing fair. After all, a lot of them got started the same way we're starting."

The scheduled airlines, naturally, have their complaints about the non-scheduled operators. Many facilities at airports like LaGuardia are paid for by these airlines and they have a natural resentment against allowing someone else to use them. There have also been complaints about non-scheduled operators soliciting airline passengers, giving passengers the impression that they are to ride on a regularly scheduled airline, etc.

Wynn believes the good non-scheduled operators are doing a lot for air transportation. "I've had first riders on my planes," he says. "I've tried to explain operations to them, kidded with them when the flight got a little rough. They're confirmed air travelers. I had one man on a Miami-New York flight whose home was in Philadelphia. He was going to catch a train in New York. We were going to fly right over Philly. Now, I can't afford to come down from 9,000 feet, circle, land at Philly and use up all that extra gas taking off again, but I did it, and I believe aviation has another satisfied customer. He won't expect that on the airlines, but he'll use them."

What do these operators think about CAB economic regulation of their business? Wynn says: "This is a free country. As long as I render a decent, safe service I demand the right to be free to oper-

ate until I go completely broke or make a million dollars." He believes any proposal to restrict these operators to 10 trips monthly between any two points served by scheduled airlines should not even be considered by CAB.

"I'm a firm believer in safety regulations," he adds. "We've got to have them." He doubts the advisability of any widespread charter operations with single-engine equipment.

Most of the operators on the New York-Miami run are having major maintenance performed in Miami, and formation of the Contract Air Carriers Association has helped in this regard. A group of mechanics in Miami is said to be servicing planes for a lot of the members. In New York, problems are varied. Some operators are getting maintenance done through a shop at Roosevelt Field.

Having an airplane out of service is as serious, or more serious, for a non-scheduled operator as it is for an airline. Slowly but surely these operators are learning how to keep their planes flying and how to cut costs. For example, one outfit was paying a big price for gasoline until it went to the oil company, explained how much it was using and got a considerably cheaper per-gallon rate. There are many other instances. "It's trial and error—the hard way," they explain. "You find a way to cut a few cents here and a few cents there."

In addition to working through travel agents, the passenger lines are advertising in New York and Miami newspapers, and are using radio time. They also are depending upon their passengers to spread the word. At least two of them claim considerable "repeat" business. Fares are

not standardized. For New York-Miami they range between \$65 and \$110 one way, plus tax, compared with airline fare of \$56.65 plus tax. During February these lines did not have capacity loads southbound—50% load or less—but did a capacity business northbound.

At least some of the lines have a standard ticket for passengers and some of them sell air travel insurance. Passengers either get to the airport themselves, or, if there are enough, a limousine can be secured from Carey Airport Service.

A majority of the operators are using Douglas C-47 or Lockheed Lodestar equipment, and for the most part the fleets are small—two or three planes. Some, however, are buying more equipment. Transair Inc., a relatively new company, has two C-54s (plus five C-47s and two Lockheed Electras) which are chartered through Dresser, Inc., Airways Agency.

At present, pilots on some of the lines are making good money. One claimed that its captains would average, in monthly pay, as much as an airline captain. Another pays a flat \$700 a month. However, there was an unconfirmed story that one line was able to pay only \$150 to \$200 monthly.

What happens when the Miami winter season ends? Opinion is that some operators will find the going tough. Some are laying plans, but they're not willing to do too much talking. It is known, however, that there are plans to shift south and operate out of Miami through the Caribbean area. Others will try to tap the New England summer resort trade. Some will take business wherever they can get it.

### Board Sets Date for First Cargo Hearing

**M**OVING for the first time into the cargo field, the Civil Aeronautics Board last fortnight set a pre-hearing conference date covering all 19 applications for scheduled service in that field, and also set a date for a conference covering four freight forwarder applicants.

The cargo conference is to be held Mar. 25, freight forwarders Mar. 27. If all applicants are prepared to proceed, hearings should begin shortly thereafter.

Conferences were set because these cases were next on the docket and there was no unusual significance attached to the move, but officials pointed out that action came at an opportune time because non-scheduled and charter operations in both the cargo and passenger fields are increasing rapidly.

Still awaiting action are 19 applications for non-scheduled cargo service.

It is admitted that at the present time there would be little advantage to holding a cargo certificate. Under present law, anyone can operate a cargo service as long as he keeps it on a charter basis and does not hold out his service to the general public, and as long as his airplanes and pilots are properly licensed.

Freight forwarders, who contact shippers to handle transportation of their goods, but who do not operate aircraft, are subject to the Civil Aeronautics Act (CAB in 1942 ruled that Universal Air Freight Corp. was an air carrier because it indirectly engaged in air transportation, would not grant it an exemption from the Act, and ordered it to cease and desist from violating the Act. Railway Express Agency is also classified as an air carrier, but operates under an exemption rather than a certificate). Freight forwarders using ground transportation are handled in somewhat the same manner by the Interstate Commerce Commission.

There are some interesting questions involving freight forwarders that will have to be answered sooner or later and they may come out in the CAB proceeding. Some observers are wondering, for example, whether a freight forwarder can legally do business with a non-scheduled uncertificated airline. Others wonder whether they can deal with a purely intrastate operator.

Involved in the pre-hearing conference on cargo operations are: Denver Chicago Trucking Co., Southwestern Freight Lines, Keeshin Air Freight Inc., Knowles Vans Inc., All States Freight Inc., Gilbertville Trucking Co., New York-Los Angeles Airways, Associated Truck Lines, Skyway Transportation, Arthur A. Fogarty, Faster Flying Freight Inc., Keith B. Van Zandt, Delsea Airlines, Globe Freight Airlines Inc., Hoosier Air Freight, Central U. S. Airlines, South Air Freight Express Co., Minute Men Air Freight and American Air Express Corp.

Freight forwarders are Universal Air Freight Corp., Acme Air Express Inc., Air Freight Forwarders Inc. and Airways Freight Inc.

# Federal Fees Planned for Civil Airmen, Planes

## Levy Aimed at Licensing, Aircraft Title Registration

By LEONARD EISERER

WITHIN A FEW months recordation fees will be levied on the federal licensing of all civil airmen and the title registration of all civil aircraft with the Civil Aeronautics Administration, under a plan now being drafted in Washington.

While details of the ultimate program have not been disclosed, it is known that CAA is considering applying the fee to all civil airmen certificated by that agency, which would include all classes and types of pilots, mechanics, parachute riggers, ground instructors, air traffic control tower operators, and aircraft dispatchers.

Immediate significance of the move is twofold. First, it is seen as reflecting the trend of the federal government toward deriving substantial revenue from the civil aviation activities which it regulates. Secondly, it probably will mean in many instances a double registration fee for aircraft and pilots—one federal and one state—since CAA already has agreed that the states may require aircraft and pilot registration at a nominal fee.

Moreover, another fee is in the offing for plane owners. Over and above the registration charge, the CAA is planning after July 1 to authorize certain designated agents in the field to collect a nominal fee of perhaps \$1 or \$2 for handling paper work in connection with the sale of used planes. This measure would be intended to relieve at least partially the present muddle in CAA aircraft title registrations.

CAA officials quickly admit inability to keep step with the unprecedented flurry in civil aviation activities during recent months. As of last week there was a backlog of 9,609 uncompleted transactions in the aircraft recordation section alone. Although CAA reports that its staff is handling 800 to 1,000 title changes a week, the situation gets progressively worse with an average of 2,000 new cases coming in during the

same period. These involve title transfers of used civil planes, plus war surplus and new aircraft.

Already there are instances of used plane purchasers waiting as long as six months for final clearance of title by CAA. While CAA has allowed the buyer to fly the plane during the interim without penalty, such a delay does not help the new owner obtain financing or insurance for the craft.

Continuance of the present rate of falling behind 1,000 new cases per week, plus the current backlog, would put the CAA about a year in arrears by the end of 1946.

CAA hopes to avoid this by (1) revising the present ineffective system of making aircraft title changes, and (2) getting more personnel.

A major factor in the current predicament, according to CAA, is the fact that about 60% of the papers involved in transfer of plane titles (certificate of ownership, bill of sale, etc.) are inadequately prepared when received by the Washington office. This requires follow-up correspondence and often considerable delay in obtaining the required information.

As a solution the CAA is proposing to establish approved "title stations" around the country, most of them probably at airports. The airport operator, distributor, or other designated agent would then assume responsibility for the correct handling of title papers before transmission to Washington, and would be authorized by CAA to charge a nominal fee for his services.

### Simplification Planned

A simplification of the papers involved is also planned, along with the revision of processing mechanics at headquarters.

In support of their claim to more personnel to handle the workload, CAA officials point out that the current monthly rate of aircraft title registrations is higher than the annual prewar rate, while the complement of 30 in the recordation section has remained the same. During January 4,206 new aircraft were registered, along with 1,444 title transfers for used planes. These brought the active certificates to 40,483, compared with an overall total of 12,829 certificated planes in 1939.

The backlog of unfinished business is even more impressive in the CAA's airman records section where upwards of 20,000 pilot applications are awaiting action. Pilot certificates processed skyrocketed from 4,540 in November, to 12,573 in December and 11,556 in January, bringing the total to 193,358 on Feb. 1. Again, more federal employees are seen in the CAA solution, since it is pointed out that the personnel complement in that unit is about the same as in 1939 when the workload was a fraction of the present volume.

## Smith Resigns Braniff Job To Head Aviation Activities

Robert J. Smith, who returned to Braniff Airways last November as vice president in charge of expansion and route development, has resigned to become president of newly-organized Aviation Activities, Inc., with headquarters in Dallas, Tex. The firm will deal in trans-

port aircraft, engines, and other equipment.

Jack Ingram, Washington representative of Braniff, and Henry McGee, who was with Braniff before the war, are vice presidents of the Aviation Activities.

## Aviation Calendar

Mar. 21-22—IAS National Aircraft Propulsion Meeting and tour of NACA engine laboratory, Cleveland.

Mar. 25-30—Aviation Show, Municipal Armory, Los Angeles, sponsored by Aviators Post No. 350, American Legion.

Mar. 29-30—First Joint Air Defense Conference, sponsored by NAA, Mayflower Hotel, Washington (postponed from Feb. 22-23).

Apr. 3-5—SAE National Aeronautic Spring Meeting, Hotel New Yorker, New York.

Apr. 5-13—National Aviation Show, sponsored by Aviators Post No. 743, American Legion, Grand Central Palace, New York.

Apr. 8-10—Aero Medical Association of U. S. Annual meeting, Edgewater Beach Hotel, Chicago.

Apr. 8-12—American Society of Tool Engineers Convention and Exposition, Cleveland.

Apr. 12—New England Council's Third Annual Conference, Hotel Statler, Boston.

Apr. 18—IAS New York Section meeting, 8 p. m., McGraw-Hill Auditorium.

Apr. 22-24—Stephens College, Columbia, Mo., national conference on Women in Aviation.

May 13-14—New York State Aviation Council's semi-annual meeting, Westchester Country Club, Rye, N. Y.

May 30-June 2—Annual New England lightplane tour, auspices New England Aviation Trades Association.

June 1-2—National Air Carnival, Birmingham.

June 2-7—SAE Summer (Semi-Annual) Meeting, French Lick, Ind.

June 8-9—Dedication Eldon, Mo., Model Airpark.

July 18-21—"World's Fair for Aviation," Omaha.

July 19-20—NAA National Convention, Omaha, Neb.

Aug. 22-24—SAE National West Coast Transportation & Maintenance Meeting, New Washington Hotel, Seattle.

Aug. 31-Sept. 2—National Air Races, Cleveland.

Oct. 3-5—SAE National Aeronautic (Fall) Meeting and Aircraft Engineering Display, Biltmore Hotel, Los Angeles.

Oct. 14-17—National Aviation Clinic, Oklahoma City.

Oct. 16-17—SAE National Transportation & Maintenance Meeting, Hotel Knickerbocker, Chicago.

Oct. 23-25—Second Annual Arizona Aviation Conference, Phoenix.

Nov. 7-8—SAE National Fuels & Lubricants Meeting, Mayo Hotel, Tulsa, Okla.

Dec. 2-4—SAE National Air Transport Engineering Meeting, Edgewater Beach Hotel, Chicago.

### INTERNATIONAL EVENTS

Mar. 25—IATA Middle East Traffic Conference, Cairo.

Apr. 2—PICAO Council reconvenes in Montreal.

Apr. 24—PICAO route service conference on European navigation facilities, Paris.

### Federal Airway Service Charges?

T. P. Wright, Civil Aeronautics Administrator, said that CAA, in cooperation with various aviation industry associations, would make a study of the feasibility of instituting a schedule of service charges for use of Federal airway facilities. Wright said the study would be completed in time to submit recommendations to Congress next Jan. 1.

This study is being undertaken at the insistence of the Justice, State, Commerce, Judiciary subcommittee of the House Appropriations committee which feels that aviation has now progressed to a point where it should pay more of its own way.

In connection with the study, CAA would attempt to set up a formula for assessing the various users—scheduled and non-scheduled carriers and private flyers—a reasonable charge for use of Federal airway facilities. CAA will seek the cooperation of the various aviation trade organizations in making the study. Already the Air Transport Association has indicated its willingness to participate in the study.



# CAA Seen Moving Into Repair and Overhaul Field

## NATA and Operators Say Plan Threatens Business

IS THE CIVIL Aeronautics Administration invading the field of private enterprise and industry by opening up its own repair and maintenance bases? Is the CAA going to take away repair and overhaul business formerly given out on bid to local operators?

A right smart little squall has been brewing over the CAA's plans to operate a big maintenance and stock base at Will Rogers Airport, Oklahoma City, and in undertaking its own maintenance activities in the field.

Local operators are skeptical. They are afraid "maintenance and repair" will all too soon develop into overhaul of airplanes, engines and instruments. They are afraid the CAA will have such a strong system of facilities that it will, sooner or later, start servicing and repairing all other government civil aircraft.

It means a loss of business to the local operators. CAA admits that, but the CAA believes the local operators will have all the business they can handle from the greatly increased number of civil airplanes coming off the assembly lines this year.

### Was Loss Leader

The local operator doesn't seem so much concerned with the loss of maintenance and repair business. He never made any money—or much money—from it anyway. But it was prestige business. It was a loss leader. And he does fear that he may in time lose the overhaul business which, even if he does it at a loss as most of them do, is very worth while in attracting other customers.

In the field the CAA, like many government agencies, follows the time-honored practice of chiseling on prices. It always tries to get discounts and special favors. But the boys in the field are used to this. They don't mind so much. What they don't want to see is the CAA going into private repair business.

Isn't CAA a promotional and regulatory agency? Should it get into the operational side? Isn't this new repair base plan a dangerous precedent? Isn't it the result of CAA boys not finding enough to do and thinking up new self-perpetuating government jobs? These are the questions.

Government encroachment into private industry is the toughest thing industry has to fight today, they say.

As for the CAA, it has an answer for the critics. (Government agencies are never short of answers.) It seems that in 1944 the CAA asked the Bureau of the Budget to approve a request for \$7 millions to buy a brand new fleet of airplanes and parts to replace the 21 different types then in use. CAA thought it was time to standardize and modernize.

Bureau of the Budget turned down CAA. Instead it made it possible for the CAA to acquire about \$6 million of surplus planes and \$6 millions of surplus parts from the Army and Navy without charge to CAA.

So today CAA has 231 aircraft as follows:

- 2 Douglas four-engined C-54s
- 9 Douglas twin-engined C-47s
- 54 twin-engined Beech C-45s

46 single-engined Beechcrafts  
100 North American AT-6s  
20 Fairchild 24s

CAA's plan is to operate a big stock base at Oklahoma City requiring about 100 personnel for stocking and servicing. In each region will be about 10 or 12 expert mechanics (including radio and instrument mechanics) and when parts are needed the requests will be shot into Oklahoma City. CAA estimates about 1.1 personnel will be used per CAA airplane.

Admittedly, it's going into the repair business. Presence of a dozen mechanics in each region is ample evidence.

Originally it wanted bases on the east and west coasts but no surplus facilities could be found. So a hangar probably will be used in Los Angeles as a stock pile.

CAA says it will be able to do a much more efficient and economical job. For one thing, few operators will have repair parts needed for servicing CAA planes, it says, because there will be few such planes in regular civil or commercial operation. Thus local operators would be delayed in handling CAA business while trying to get parts.

Also, CAA says, for all repair jobs in excess of \$100, it must follow government policy of getting three bids—thus incurring delays. Present use of CAA planes averages 120 hours per year but it says this figure will be upped to 300 hours per year in the future. Thus it can't afford to have planes around awaiting repairs.

The supply of parts which CAA has acquired from surplus is estimated to last five years. Will it then revert to doing business with local operators? No one

in CAA can say. Nor can CAA guarantee that it won't expand its regional facilities.

CAA says its 231 planes are small potatoes compared with the 70,000 civil planes which may be flying by the end of this year. It says the operators won't lack for business.

But the operators don't like the looks of it. They've been burned before by innocent-sounding plans. They admit CAA's plan sounds rational, but they are sure there's a stickler somewhere. They just don't think CAA belongs in the repair business. They see it as just one more step by government into a realm government never was supposed to get into.

Roscoe Turner, president of National Aviation Trades Association, is spearheading an NATA campaign against the CAA repair base plan and in a bulletin sent to members on Mar. 2 suggested that members wire or write to their Congressmen. Turner's action came out of a conference of Aeronautical Training Society operators in Washington at which Jack Morris, of the CAA, appeared to explain the plan.

Turner said the CAA won't be able to get along with 300 new employees, as it claims, and that the government is definitely going to injure private business.

Another strong protest came from the board of the Aeronautical Training Society, the organization of training schools of which Wayne Weishaar is manager. Weishaar, in fact, was the discoverer of the CAA plans. The ATS resolution condemns the CAA proposal as being wasteful of public money.

## CAA Has One Employee for Every Three Civil Aircraft

### Agency Says it Needs More Personnel, Plans Expansion

ONE CAA employee for every three licensed civil aircraft.

Somewhat incredible, but true.

On Feb. 1 there were 30,881 civil aircraft certificated by the Civil Aeronautics Administration.

As of February there were 10,461 CAA personnel—the ratio being one employee for less than three airplanes.

Back in 1939 the ratio was one CAA employee for every 4.7 licensed aircraft.

On Sept. 30, 1939, the CAA had a mere 3,788 employees, while licensed aircraft on Jan. 1, 1939, totaled 13,772, and on Jan. 1, 1940, totaled 17,928.

With civil aircraft production going up with considerable rapidity this year—the total could conceivably reach or surpass 70,000 by Dec. 31, 1946—the ratio of federal employees per licensed airplane will show a big difference.

On the other hand, CAA's employment

is far from reaching its peak. It requested a budget of \$93 millions with a planned personnel of 14,697 for the new fiscal year starting July 1, 1946. Were it not for the fact that civil aircraft are being turned out rapidly by the factories this year, the CAA personnel would almost amount to one for every two airplanes in the U. S. But not only are aircraft increasing at a fast rate but the Bureau of the Budget trimmed down the CAA requests quite substantially. At this point the CAA does not know how many additions it can make for the next fiscal year.

As of February the CAA had 1191 employees in Washington, 9,104 in the field within the U. S., 61 in U. S. territories outside the continental limits, and 105 in foreign countries.

Meantime CAA says it is very short of employees in certain categories, and a big expansion is planned to handle the airport construction program when it is ready. At present the airport division has shown no material increase so that the current 10,461 employees do not reflect the forthcoming airport program.



# NWA May Move Base, Plans Big Construction Program

## Favorable Site Sought for \$7-8 Million in Buildings

REPORTS THAT Northwest Airlines may move its main operating base from Minneapolis-St. Paul were confirmed by Croil Hunter, president and general manager, who announced that his company is considering nine different cities along NWA's routes.

His announcement was timed with another disclosing plans for the construction of a group of headquarters and maintenance buildings costing between seven and eight million dollars—to be located in the city selected as the chief operations base.

"We will do our building in the city where conditions offer us the best inducements," Hunter said. The inducements include a favorable labor market, a reasonable tax situation, proximity of the maintenance base to maintenance supply stores, a favorable attitude by the state's aeronautics commission, and a favorable attitude on the part of the community.

Northwest has maintained its headquarters and chief maintenance base in the Twin Cities since the company's organization in 1926.

Hunter said that in addition to Minneapolis-St. Paul, his company is considering New York and Newark, N. J., Chicago, Detroit, Milwaukee, Billings, Mont., Spokane and Seattle-Tacoma. Northwest will expend several million dollars to build new facilities or to enlarge others at each of these points.

The plan for the main operating base construction includes a seven-story office building and wings, which would house most of the company's administrative and clerical personnel; four large hangars, overhaul and maintenance shops, a parts warehouse, cafeteria, commissary, recreation space and power plant. Parking and recreation area would be provided alongside the buildings.

Work on the project is slated to begin next fall. It will require from 95 to 125 acres and floor area in buildings will be 1,266,000 square feet. First part of the building program to be undertaken will cost \$4,000,000.

Other expenditures by Northwest include these:

- Between one and two million dollars for a new hangar at Seattle-Tacoma's Bow Lake airport and a similar amount for a hangar at either Newark or the new Idlewild field in New York.

- Facilities will be built at Detroit when that city develops its new commercial airline airport.

- Work has already begun on a hangar enlargement project at Chicago which will cost from \$100,000 to \$125,000. Ground facilities will be improved in both Billings and Milwaukee.

- Northwest hopes to utilize hangar facilities at Spokane's Geiger airport, recently declared surplus by the Army, and to obtain a second large hangar, used for military purposes during the war, at Wold-Chamberlain fields, Twin Cities.



**To Dublin**—Lt. Com. Paul A. Smith of the U. S. Coast and Geodetic Survey (left), Gerald B. Brophy, U. S. PICAO delegate and chief of mission; and John C. Leslie, vice president of Pan American Airways, board the Constellation Clipper for the PICAO route service conference which convened in Dublin, Eire, on Mar. 4. Some of the other U. S. delegates are: Charles I. Stanton and Glen Gilbert of CAA; T. L. Boyd, AOA; Roger Kruse, TWA; Donald Nyrop, ATA; Delos Rentzel, Arinc; Arthur Lebel, State Dept.

## School Operators Concerned Over Possible Flying Boom

AERONAUTICAL school operators last fortnight were expressing grave concern over a possible five-billion-dollar flying boom, brought about by liberalization of the G. I. Bill of Rights, which permits the Veterans Administration to pay \$500 for a flight training course of less than 30 weeks and to pay more than \$500 for 30 weeks if the veteran wishes.

This kind of spending could result in as much as \$3,066 worth of training each for millions of veterans, the operators say, bringing with it the danger of abuse by "fly-by-night" schools which could take advantage of the situation to get rich quick at the expense of veterans.

The Veterans Administration, too, is concerned, pointing out that many veterans, under the present loose reading of the law, may receive inadequate and improper training or be trained for aviation jobs that don't exist. Intense resentment on the part of the veteran may be an aftermath, since his training allowance may be needlessly exhausted.

"Aviation men," said a VA spokesman, "should make it their business to see that state approval agencies establish standards to insure that the vet's training is

proper and that incompetents are not permitted to exist." VA is studying legal aspects of the problem, may issue further regulations on contracts.

As the veterans training law now stands, it places responsibility for approval of institutions on the state educational boards and further provides that no federal agency, department or official may exercise any supervision or control over the state educational agencies.

Ohio flying school operators, meeting at the call of the Ohio Aviation Board, set up standards for veterans training flight programs as a guide for the Ohio department of education.

The operator of one large flying school said that until more tangible control over the boom in ex-G. I. students can be arranged, some control must be exercised at the counseling level. This school has had 30,000 letters of application for entrance in the last five weeks, and is doing its best to discourage applicants for flight instruction only or those whose seriousness of purpose is doubtful.

Each applicant is sent a circular outlining the school's policy, and the reasons for its reluctance to accept new students for long flight courses only. This school recommends combined flight courses.

Another operator, whose school is receiving some 1500 inquiries a week, admits that counseling, after individual analysis, appears to be the only check on the avalanche. But the school also notes that the ex-G. I. is sensitive to any restriction on his war-won rights and appears to be extremely allergic to counseling.

### Air Defense Conference Set

The first Joint Air Defense Conference called by the Joint Aviation Users' Conference under sponsorship of NAA will be held in Washington's Mayflower Hotel, March 29-30. Preliminary agenda calls for discussion of military and non-military aspects of the proposed national security program for the armed services.



Architects' drawing of proposed Northwest Airlines' headquarters and maintenance buildings.

# TWA Extends Foreign Lines With Italian, Ethiopian Pacts

**Broad Management Contracts Apply to 2 Internal Systems**

By WAYNE W. PARRISH

**T**RANSCONTINENTAL & Western Air, Inc., is digging its roots deep along its international air route to India with the aim of not only providing feeder service into its trunk route but to provide American-type local air transport to countries which have not had such service heretofore.

TWA has revealed a number of important agreements reached abroad. One calls for partial ownership and full management of a complete internal airline system for Italy. Another is a management contract to operate all aviation activities for Ethiopia. A third calls for operation and maintenance of the airplane owned by the King of Saudi Arabia. And a few months ago TWA announced a 20% participation in a new Philippines airline.

The agreements signed to date are not expected to conclude TWA's activities in other countries but in all cases the financial participation and/or management is confined to countries without aeronautical resources of their own.

Perhaps most important to date is the Italian agreement signed with the Air Ministry of that country. The deal must be ratified by the Italian Cabinet and approved by the Allied Commission and the Combined Chiefs of Staff before it becomes operative, but TWA is prepared to start C-47 service in the near future.

## 14 Routes in Italy

There are 14 projected routes in Italy, operating out of Rome to Venice and Trieste in the northeast, to Balazano in the Alps and to Milan, Genoa and Turin in the northwest. To the south the routes touch Naples, Bari, Brindiel, Lecce and into Sicily, with several routes into Sardinia.

The name of the Italian company is Linee Aeree Civili. TWA holds 40% of the stock while the remaining 60% is to be divided equally between the Italian government and private shareholders approved by TWA. The company would be the successor to the prewar Ala Litoria, the Italian airline that operated throughout Europe, North Africa and to South America.

In Ethiopia, TWA has no financial participation in the company but it has a management contract which gives it complete authority on all operations and is so broad as to set up TWA as both the CAB and CAA for Ethiopia. TWA actually will handle licensing of pilots and airlines. An extensive internal service is planned and six C-47s already have been flown to Addis Ababa. Single-engine planes of the Noorduyt Norseman type will serve sparsely-settled areas and a line will be started between Addis Ababa and Cairo where connections are made with TWA's international system.

A big maintenance, repair and overhaul base is being set up at Cairo under direction of Walter Hamilton, TWA vice-

president, and conversion of Army cargo planes will be carried on at this point also.

TWA nosed out the Swedish Air Line, A.B. Aerotransport, in the contest for the Ethiopian concession.

## Behncke Shows Up For 4-Engine Wage Talks

After earlier refusal to attend the meetings, David L. Behncke, president of Air Line Pilots Association, was present at conferences last week between the Airlines Negotiating Committee and representatives of the pilots of American Airlines, involving wage negotiations for operating four-engine equipment. Meetings were being held in New York.

The Air Lines Negotiating Committee, in a statement of principles sent to all pilots, stated that it felt "that reasonable differentials in compensation are justified for the operation of larger equipment and should be authorized. Such differentials should be paid on a retroactive basis if not established prior to the inauguration of schedules. It is not our objective to decrease the compensation of any air transport pilot."

The memorandum also sets forth that the Civil Aeronautics Board and the National Mediation Board have recognized the Airlines Negotiating Committee as a proper bargaining agent for the airlines and that the committee recognizes ALPA as a proper bargaining medium for the pilots. "We have no desire to weaken or destroy this organization (ALPA), nor to detract from its dignity or effectiveness," the Airline Committee stated.

## St. Louis Aircraft Quits

St. Louis Car Co., which manufactured training aircraft through its subsidiary, St. Louis Aircraft Corp., has discontinued all aircraft work.

## Temporary Halting Of Air Carrier Service 'Isolates' 113 Cities

Cities to which airline service was temporarily suspended totaled 113 on Mar. 1, or more than 17% of the total points certificated on the domestic air carrier network, information received from the Civil Aeronautics Board reveals.

The 113 figure does not include cities certificated for several routes of a carrier and served on just one, but includes only those points not receiving any service whatsoever from an airline in whose system it appears.

Most common reason for these suspensions, according to CAB, is inadequate airport facilities, a second important factor being the wartime equipment problem which forced the carriers to abandon operations to numerous points. However, resumption of suspended services is proceeding steadily, and the CAB is making efforts to speed up the process.

As of the first of this month, American Airlines led in suspensions with 16, followed by Northeast with 14, and PCA with 10.

Total route mileage in the domestic airline system aggregated 67,149, with a total of 639 certificated points. The latter figure includes inter-line duplications, but not route duplications for a specific carrier.

Of the regular passenger carriers, American had the most certificated points on Mar. 1 with 71. Eastern was next with 58, and United third with 55.

However, United led in number of exclusive service points, 24 of its 55 certificated cities being in that category. Northeast had 22 of its 27 points on an exclusive basis. Of the transcontinental carriers TWA had the fewest exclusive points, only six out of its total of 44.

The accompanying table shows CAB figures for certificated mileage, total certificated points, exclusive points, suspensions, and airline points certificated since Jan. 1, 1942, for all the domestic carriers. The mileage per point represents the average computed from the certificated mileage and certificated points data.

Carrier	Certificated Mileage	Certificated Points	Mileage Per Point	Exclusive Points	Suspensions as of Mar. 1	Certificated Points Added Since Jan. 1942
All American	1,432	92	15.4	79	0	3
American	10,542	71	148.4	20	16	4
Braniff	3,933	30	131.1	6	0	13
Caribbean	206	5	41.2	5	0	0
Catalina	61	3	20.3	2	3	0
Chgo. & Southern	2,122	22	96.4	6	6	10
Colonial	1,050	14	75.0	3	9	9
Continental	2,911	29	100.4	12	7	12
Delta	3,137	26	120.6	4	2	10
Eastern	8,030	58	138.4	9	6	9*
Emair	683	6	113.8	0	0	6
Hawaiian	356	7	50.8	7	1	0
Inland	1,228	13	94.4	8	2	1*
Mid-Continent	2,522	24	105.0	8	8	6
National	2,037	25	81.5	10	5	10*
Northeast	1,451	27	53.7	22	14	9
Northwest	4,381	28	156.4	13	5	7
PCA	3,996	40	99.9	8	10	6
TWA	7,731	44	175.7	6	8	14*
United	6,552	55	119.1	24	7	10*
Western Air	2,788	20	139.4	8	4	6
<b>TOTALS</b>	<b>67,149</b>	<b>639</b>	<b>105.1</b>	<b>260</b>	<b>113</b>	<b>145</b>

\* Includes one temporary point.

# IATA Sets Temporary Fares For North Atlantic Routes

**Rates Are Somewhat Lower, Average About 10.4c a Mile**

AT THE conclusion of a nine-day meeting in which Pan American Airways participated but did not vote, the North Atlantic traffic conference of the International Air Transport Association on Mar. 6 announced agreement on temporary North Atlantic passenger fares averaging about 10.4c a mile, somewhat lower than present tariffs.

Pan American's action in not voting did not prevent the conference from reaching the required unanimous agreement. Conference rules state that a member present but not voting shall be considered to have voted affirmatively.

"There is at the present time insufficient actual cost data available to enable the members to determine passenger and cargo rates accurately related to cost of operation," the conference said. It pointed out that trans-Atlantic service is relatively new, that new types of equipment have just been introduced, that frequencies are changing and that mail pay has not been determined for the routes.

In most cases there were reductions in fares (see table). The New York-London fare drops \$15, Amsterdam \$5, Copenhagen \$29, Oslo \$32 and Stockholm \$40. Some of the new fares are higher than those which PAA has been charging but lower than those of other carriers. For example, New York-Shannon will be \$319, against PAA's present \$249 and American Overseas Airlines' \$334. The rate reductions were generally less than had been expected.

The rates, which are based on the New York-Paris tariff of \$375 go into effect Apr. 15, provided approval of the governments is obtained by Apr. 5. Otherwise they become effective 10 days after approval by the last government. They will remain in force until June 24, 1946, or until any further agreements on rates by the conference are approved by the governments. In no event, however, will they be effective after July 31, 1946.

In the meantime the conference is naming a working subcommittee for the purpose of studying estimated cost data and, as they become available, actual operating costs, looking toward establishment

of lower rates. The subcommittee is to report on June 3.

In setting up the trans-Atlantic fares, the conference used the "gateway" principle, with Boston as the U. S. gateway, Montreal as the Canadian gateway, and Shannon, Lisbon and Oslo as European gateways. The total fare, therefore, would be the fare between the two gateways involved plus the lowest domestic fare on each end. For example, the New York-London fare is composed of the domestic New York-Boston tariff, plus Boston-Shannon, plus the domestic Shannon-London rate.

The conference also decided that children under two years of age will travel for 10% of the one-way fare, and those between two and 12 for 50%. Baggage allowance is increased from 55 to 66 lbs.

Express rates (see table) are based on eight-tenths of 1% of the one-way passenger fare per kilogram (2.2 lbs.).

The agreement is binding on American Overseas, Pan American, TWA, Trans-Canada Air Lines, SILA (Swedish Intercontinental Air Lines) and British Overseas Airways Corp., all voting members of the conference. In addition, the following non-voting members have also agreed: Air France, KLM, DDL (Danish) and DNL (Norwegian).

V. E. Chenea, PAA vice-president and general traffic manager, issued a statement at the conclusion of the conference, asserting that PAA stated at the beginning of the conference "that there were too many variables and uncertainties affecting its North Atlantic operations today to make it practicable from Pan American's standpoint to fix a conference rate that would have the effect of limiting the company's ability to adjust its rates to meet the changing situation."

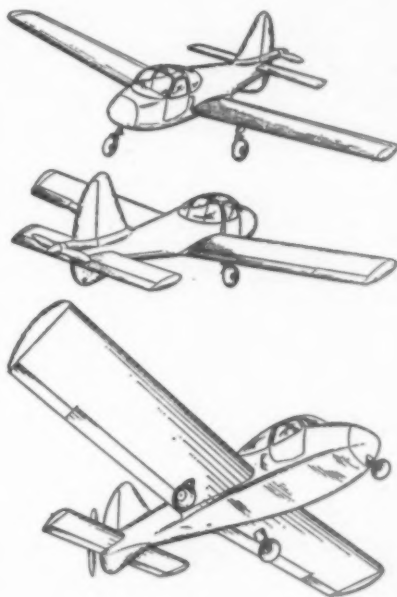
Chenea said instead of voting "no" and thereby blocking a conference rate, PAA attended the rate deliberations as an "observer" and refrained from voting so other carriers could enter into a rate agreement.

There had been much speculation as to what PAA would do at the conference in view of the tiffs during the past several months over rates to Britain and France. Observers were now wondering if PAA would follow a similar course in other IATA conferences.

## Design Patent May Be Lockheed's Big Dipper

The granting of a design patent for an unusual personal type aircraft to Robert E. Gross, president of Lockheed Aircraft Corp., was revealed in the Feb. 26 issue of the *Official Gazette of the United States Patent Office*.

The design shows a tricycle landing gear and a pusher propeller located be-



hind the tail surfaces and is presumed to be the two-place Big Dipper, rumored as Lockheed's candidate for the personal aircraft market. A prototype version was built and test flown early this year, but the project reportedly was suspended following a crash of the craft.

Considerable interest is attached to the fact that the design patent, while assigned to Lockheed, was issued to Gross and not one of the company's engineers.

## Nuss Resigns With a Bang, Says Efforts Were Hindered

The city of Reading, Pennsylvania, forgot all about strikes, nylon shortages and international affairs late in February. Melvin Nuss, manager of Reading Airport and a well-known aviation figure in the east, resigned with a bang and thereby stirred up a full-grown civic rumpus.

Nuss claims his efforts to develop the full commercial potential of the airport have been hindered by the short-sighted policy and personal whims of some city officials, Army officers and others. Two members of the airport commission said they'd resign too. Nuss said the city lost a chance to get TWA's international division training school because of failure to retake possession of the airport from the Army. Being a leading figure in Reading, Nuss had plenty of public and press support. But he hasn't changed his mind about resigning. He's going back into the insurance business.

### Proposed IATA Fares from New York

Destination	Proposed Fares		Present One way	Proposed Express Rate per Kilo (2.2 lbs.)
	One way	Round trip		
Shannon	\$319	\$575.87	\$249*	\$2.55
London	360	649.67	375	2.88
Paris	375	676.67	375	3.00
Brussels	394	710.87	a	3.15
Amsterdam	394	710.87	399	3.15
Copenhagen	436	786.47	465	3.49
Frestwick	358	646.07	a	2.86
Oslo	438	790.07	470	3.50
Stockholm	455	820.67	495	3.64
Lisbon	375	676.67	295*	3.00
Bermuda	70	126.00	70	.56

\* Present Pan American Airways tariffs to Shannon and Lisbon, which are \$334 and \$390, respectively on other airlines.

a No present schedule or fare.



# Revived NATA Opens Drive for 1,500 Members

## Campaign is Sparked by Garside and Harrington

THE NATIONAL Aviation Trades Association, the only national organization of local flight operators, is making a serious effort to revive itself and become a country-wide voice of the more than 3,000 local firms in the non-scheduled aviation business.

Sparkled by Joe Garside of Wiggins Airways, Boston, and by Jim Harrington of Mansfield, O., NATA is staging a concentrated membership campaign with a goal of signing up at least half of the country's fixed base operators.

Organized several years ago when local operators were conducting flight training under contract to the CAA, NATA got off to a good start, then bogged down somewhat primarily because of the lack of a full-time national office and divergent ideas as to what NATA should do.

Most operators feel, however, that there is a strong need for a national organization to act as spokesman for the common interests and problems of the members. No other organization speaks primarily for the local man or company in the business formerly referred to as fixed base operations.

Garside, a well known figure throughout the northeast, and president of Region I of NATA, secured the aid of the National Aeronautic Association in reviving interest of members. NAA agreed to let one of its staff members, Bob Lancraft, devote part time to doing organizational work and resuming publication of a newsletter. Then Garside called regional operators to a meeting in New York and despite handicaps of the power shortage which kept many persons away, about 50 members showed up.

Similar organizational meetings are to be held shortly at Atlanta for Region II, and in Chicago for Region III—both probably in April.

### Seeks \$100,000 Budget

With 400 members now, NATA seeks a budget of \$100,000 sufficient to operate a substantial Washington office with full-time staff. Memberships are priced at \$150, \$100 and \$50 depending on the size of the member's business, and associate memberships are available for \$100.

A new executive committee is comprised of Garside; Jim Harrington; Leslie Bowman, of Aircraft Sales Co. at Fort Worth, chairman of the NATA board; Roscoe Turner, Indianapolis, president of NATA; and F. C. Anderson, Iowa Airplane Co., Des Moines, who has risen to considerable stature as a leader in local operations in the mid-west.

That NATA is still undergoing growing pains became evident within the last few weeks, however, when Beverly Howard, president of Hawthorne Air Service at Orangeburg, S. C., resigned as first vice president because he did not feel that his past efforts have been productive. Howard is retaining his membership but evidently has some doubts that NATA can get set on a single program and stick to it. Howard had been mentioned as a successor to Roscoe Turner whose term expires shortly.

Garside believes local flight operators need a strong national body and that such an organization can be recognized as a potent national and state influence, promoting and protecting the interests of

non-scheduled aviation. In this belief he has considerable support. The key to his goal may be, in the opinion of some, a full-time national office with a strong executive secretary who can keep the activities going between meetings.

Meantime the NATA Dispatch, the association's newsletter, has resumed publication and is a newsy and informative bulletin. It is being edited and mailed from the NAA headquarters, 1025 Connecticut Ave., Washington. NATA's efforts at reviving in a strong way will probably be measured by the attendance and interest at the forthcoming Atlanta and Chicago meetings. If they click, NATA will be off to a big start in reaching its goal.

—W.W.P.

## Halsey Assumes Duties As PAA Executive Next Month

Fleet Admiral William S. Halsey, Jr., has been elected vice-president of Pan American Airways' transpacific services. He will be senior PAA officer on the West Coast in charge of the system's services to Honolulu and Australasia, as well as new services planned to the Japan and the Orient. Halsey assumes his new duties next month.

## 'Round-the-World Race Planned

The International Air Race Corp. has been organized by four well-known aviation figures for the purpose of sponsoring a 'round-the-world air race' with the starting and finishing point at some city in the U. S., possibly Washington, D. C.

Military, private and commercial airplanes would be eligible. The race would be run on speed over a projected 25,000-mile course without any special categories for different types of planes or power units.

Incorporators are Col. Benny H. Griffin, one of the early transatlantic fliers, who is rejoining CAA after a distinguished AAF service during the war; Lt. Comdr. Bernard C. Capehart, announcer at the prewar National Air Races and long active in aviation; Col. Richard Fell, now PCA regional vice president in New York, who served with ATC during the war, and John S. Wynne, prominent aviation attorney of Washington, D. C.

Prize money probably will be in the neighborhood of \$250,000. About a year will be required for organizing and preparing for the event.

# Little Promise of Federal Aid For Airports Before 1948

## Legislation is Stalemated; Engineers See 18-Month Lag

IF ALL CITIES and communities were to rely entirely on the CAA's National Airport Plan for developing new landing facilities, there would be about 4,026 designated airports in the U. S. on Jan. 1, 1948—the same number in existence on the first of this year. For despite the growing need for more landing facilities everywhere, there is little likelihood of any new airports being readied for operation through use of federal funds during this year and the next.

There are substantial reasons for expecting no early results from the federal airport program. First, there is the legislative stalemate over provisions of the airport bill. Deadlocked since November, House and Senate conferees as of last week had still failed to compromise their differences, with a major point of separation being whether to channel funds through state airport agencies, as favored by the Senate, or direct to any eligible project sponsors, as provided in the House bill.

Even after enactment of federal legislation, many months must elapse before construction can start. CAA engineers have estimated this gap at 18 months. States must complete their administrative machinery for participation in the federal aid program; metropolitan areas which have not already done so must draw up plans fitting the airports into their proper place. Sites must be selected, detailed surveys made, specifications drawn up, and contracts let. While CAA will serve in advisory capacity to

local communities, the detailed surveys and plans must be worked out by city engineers or private technicians.

On its part, the CAA is in no condition at present to carry out the National Airport Plan effectively. Pointing out that the need for trained government consultants will be acute in connection with the 3,000 new projects planned, CAA officials admit to having only a skeleton staff for its planning and engineering requirements, after losing many qualified technicians to private industry since conclusion of the war.

Personnel of the CAA's airport division now total 147, with 48 in Washington and 99 in the field. In addition the CAA has the services of 41 paid from War Assets Corp. funds for handling surplus airport disposal.

As examples of present inadequacies, it is learned that the CAA has only one airport management consultant for the entire U. S., and a single urban planning consultant to cover the country's 150 major metropolitan areas.

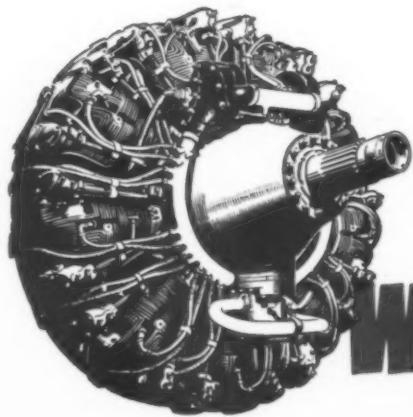
A personnel increase of 500%, or total of 941, is considered necessary to administer the proposed airport program, according to Edgar N. Smith, head of CAA's airport plans and survey service. This would triple the Washington staff to 150, and jump the field complement eightfold to 791.

Considerable difficulty is anticipated in obtaining the additional qualified personnel in competition with private industry, but some hope is seen by Smith in the personnel potential available through military demobilization, if funds for employment are provided soon.



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now makes one market place of the world . . . bringing the wares and  
wants of many nations together to create sales and prosperity  
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# Employment for *all* veterans



The young men of this country are now returning to a peacetime America. They are joining the ranks of this country's industry to lead in the building of that new world towards which all of us are working today.

All veterans have a share in this leadership. The problems that face us in the years ahead require the courage and vision that these men have ably demonstrated they possess.

It is the duty of industry to see that all veterans are given their chance. They do not require—nor do they want—special treatment. Men who have fought well will work well, without being pampered; regardless of the fact that some may have been physically disabled in their victory over the forces of evil.

Disabled veterans will work as well, or better, than any other men. They do not ask to be employed out of sympathy or to be considered as being different from their fellow workers.

They should be hired for individual qualities of initiative which are essential to the future of American industry and to the future of the country itself.

Such a policy cannot help but repay industry in direct proportion to the opportunity it offers to all veterans.

This policy is a reaffirmation of the American heritage for which all veterans sacrificed so much to preserve. It is a fundamental precept of this country that men should be equally judged on their ability and willingness to work.

America has grown great and will be greater because it is a land where such principles prevail.

President and General Manager  
Eastern Air Lines, Inc.

## E A S T E R N   A I R   L I N E S





# National Affairs and Congress

## Pogue Negotiates With French

CAB Chairman L. Welch Pogue went to Paris last week at the request of Ambassador Jefferson Caffery to assist in the negotiation of a civil aviation agreement with the French government. George Baker, chief of the State Department's transportation policy office, said agreement was almost reached with France last fall but they "got scared off a bit" and negotiations were held in abeyance until after the Anglo-American conference in Bermuda.

## Spaatz Orders AAF Reorganization

Gen. Carl A. Spaatz, who became commanding general of the AAF Feb. 1 ordered a reorganization of the Army Air Forces, dividing its combatant striking power into three major commands—strategic, tactical and continental defense. Gen. George Kenney will head the strategic air command, and Maj. Gen. E. R. "Pete" Quesada heads the tactical air groups. A commanding officer for continental defense was to be named.

## World's Fair of Aviation Scheduled

A World's Fair of Aviation will be held at Omaha, Nebr., July 18-21, under sponsorship of the Knights of Ak-Sar-Ben, Nebraska civic and philanthropic society. The fair is planned in conjunction with the first postwar convention of the National Aeronautic Association.

## Enemy Patents Made Available

Alien Property Custodian James E. Markham announced that 133 patents and three patent applications on aviation controls and accessories seized from enemy nationals have been made available for licensing. Licenses on the patents are available on a royalty-free, non-exclusive basis for the remaining life of the patent.

## SAE Proposes Engineering Liaison

The Society of Automotive Engineers announced a proposal for the continuation of cooperative engineering in commercial and civil aviation, similar to a liaison plan perfected by SAE during the war. Purpose of the proposal is to give aircraft industries an engineering advisory service similar to that provided by the government and the AAF during the war.

## Urges Transportation Authority

Col. J. M. Johnson, director of the Office of Defense Transportation, filed a statement with a Congressional subcommittee investigating national transportation in which he advocated establishment of an over-all Transportation Authority, an independent executive agency. With establishment of such an authority, he said, the competition that now exists between various governmental agencies in the promotion of particular forms of transportation would be eliminated, and a national transportation policy developed.

P-80 to Try for Speed Record  
Lockheed's P-80 jet fighter will attempt a new speed record over a special three-kilometer course at Muroc Dry Lake in California's Mojave Desert this month. AAF predicts the Shooting Star will shatter all present aircraft speed records.

## Kline Named Federal Airways Head

William E. Kline, who has been associated with federal airways since the beginning of the work in 1927, has been appointed assistant CAA administrator for federal airways. In his new post, Kline will supervise construction and operation of the 36,000 miles of federal airways, succeeding Thomas B. Bourne, who resigned to enter private business. Successor to Kline as CAA administrator of the first region is Ora W. Young who, since his return from active military service, has been superintendent of safety regulation and assistant administrator of the first region.

## NAA Plans Airport Safety Awards

Awards to all airports in the U. S. meeting approved standards of safe operation during 1946 are being prepared by the air safety division of the National Aeronautic Association as the first step in a concerted drive to check the flying accident rate. Jerry Lederer, NAA vice president in charge of safety activities, said an advisory council of 17 national organizations and government agencies drafted minimum standards to be used to determine eligibility of airports for certificates of good safety practice. Second phase of the safety campaign, beginning in the spring, will comprise a series of monthly educational drives, each directed at one phase of the safety problem.

## ATC Division to Move

ATC has changed the name of its ferrying division to continental division, and permanent headquarters are to be moved from Cincinnati, possibly to Memphis, Dallas or Topeka. The new division will take over the route to Alaska on Apr. 1 and also the weekly Globster round-the-world flights.

## Toward Bi-Lateral Arrangements

Hearings being conducted by the Senate Commerce committee on U. S.-Britain Bermuda Civil Air agreements indicate a trend away from "Fifth Freedom" air rights to bi-lateral arrangements between the U. S. and other countries. The Bermuda agreement, made outside of the Chicago International Civil Aviation conference commitments, apparently has pointed the way. Sen. Josiah W. Bailey, (D., N. C.) chairman of the committee, told the hearing that the movement is in the direction of bi-lateral agreements. Harleee Branch, CAB member, said CAB had never approved or favored the multi-lateral agreements adopted at Chicago, that he personally was opposed to them. The discussion developed when Sen. Owen Brewster (R., Me.) said that if Russia were to sign the Chicago Fifth Freedom agreements, she could, morally and legally, be certificated into the same U. S. points as Britain—namely New York, San Francisco and Hawaii—and fly into Pearl Harbor every morning carrying atom bombs.

## Sea-Air Certificates

The U. S. Maritime Commission would be empowered to grant steamship companies certificates to operate air transport routes under the provisions of a bill, H. R. 5687, introduced by Rep. Emanuel Celler (D., N. Y.) A somewhat similar bill was introduced early last year by Rep. Schuyler O. Bland (D., Va.).

## Opposes McCarran Bill

The State Department has informed the Senate Commerce committee of its opposition to the McCarran bill, S. 1814, which provides in effect that the Bermuda Civil Air Transport agreement shall be submitted to the Senate in the form of a treaty. Secretary of State Byrnes outlined for the committee the history of legislation which, he claimed, gave the executive department definite powers to enter such agreements although it was freely admitted that Congress could repeal the basic laws and abrogate, by special action, any executive agreement that had been made. The State Department also answered what they termed to be errors and inaccuracies in an anonymous memoran-



**P-47's Jet Offspring**—The AAF's Republic XP-84 jet propelled fighter, descendant of the conventionally powered P-47 Thunderbolt, completed its first test flight on Feb. 28 at Muroc Field, Calif. Powered by an axial flow General Electric jet unit, the fighter was designed and built under joint supervision of Republic Aviation Corp. an AATSC, Wright Field. Republic wants to name it the "Thunderjet."

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149	\$1.00	\$1.00	\$1.00	\$1.23	3.07
349	1.02	1.18	2.30	3.68	9.21
549	1.07	1.42	3.84	6.14	15.35
1049	1.17	1.98	7.68	12.28	30.70
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Over 2250	1.47	3.68	18.42	29.47	73.68

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dum entitled, "Analysis of Result of Bermuda Conference," which was widely circulated in government and congressional circles. Statements in the memorandum dovetailed with views expressed in an official letter which Pan American officials had given the Bermuda delegates as their company's position.

## Unprecedented Tax Bills Killed

A Senate committee of the Virginia state legislature on Mar. 5 killed two aviation gasoline tax measures after they had passed the House of Delegates. The one bill would have imposed an unprecedented use tax of six cents a gallon on gasoline consumed by air carriers in flights through the air space of Virginia. The other was a straight six-cent tax on aviation gas purchased by air carriers in Virginia. Private and non-scheduled operators were exempt under both measures. The state relations committee of the Air Transport Association and the National Association of State Aviation Officials were active in defeating the bills.

## Outcome of Testimony Awaited

Testimony given a Senate committee by William A. Patterson, president of United Air Lines, regarding methods used by Democratic National Committee campaign solicitors may form the basis for an investigation into campaign fund donations by corporation executives and the treatment accorded these gifts in income tax returns. During the hearing into the qualifications of Edwin W. Pauley, former treasurer of the Democratic National committee, for the post of Under Secretary of the Navy, Patterson told of a telephone solicitation made by Pauley's assistant for a \$35,000 campaign contribution for reelection of the Democratic ticket in 1944. Patterson said he refused to subscribe on the grounds that it would be a violation of the law to do so. Sometime later Sen. Owen Brewster (R., Me.) announced he would call Patterson's testimony to the attention of the Justice Department and the Bureau of Internal Revenue to determine whether corporation executives charged off campaign contributions to expenses in making their income tax returns. He indicated further that he would ask a Senate elections committee to investigate the whole matter. Earlier, in a Senate Commerce committee hearing, Brewster had hinted at investigation of airline contributions to campaign funds.

## McGill Heads Oklahoma Group

Gene McGill, national president of the Flying Farmers, has been elected president of the Oklahoma Aviation Association, and Keith Kahle, vice president and general manager of Central Airlines, Oklahoma City, is the organization's new executive secretary-treasurer. Carlos Webb, cotton man and private pilot, is the newly elected vice president. Among projects on which the new officers are working are: the Oklahoma Air Tour to be held the latter part of May or early June; a new state-wide aviation education program for Oklahoma's public schools; development of new methods to stress flying safety among private pilots and non-scheduled operators. Next state-wide meeting of the association will be at Ada, Okla., in April.



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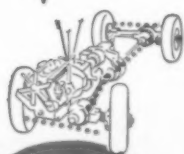
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# Australian Commission Named To Operate State Services

## Government Gains Interest In Qantas Empire Airways

**T**HE AUSTRALIAN Government has created a National Airlines Commission to operate state-owned air services and as a first step in placing the government in competition with private companies has acquired the 50% interest in Qantas Empire Airways formerly held by British Overseas Airways Corp.

Under a recent high court ruling the government was prevented from nationalizing all existing airlines but was permitted to operate its own air services. With Arthur W. Coles of the Australian House of Representatives as chairman, the new National Airlines Commission is comprised of representative government officials including Air Marshal Richard Williams who has been named the new director-general of civil aviation succeeding Daniel McVey.

Important personnel changes have taken place in Qantas reflecting the government's new control of that company. New general manager is H. H. Harman, formerly assistant general manager. C. W. Neilson is the new general traffic manager and I. O. Lawson has been named secretary. Numerous other shifts are being made.

The NAC has publicly announced that it is looking for competent persons to take management and operating positions with the state airline, and has begun recruiting throughout the British Commonwealth. Only British subjects are eligible. The minimum salary for the general manager is about \$9700 and for secretary about \$4800.

The government recently contracted with Douglas Aircraft for four new DC-4s for about \$2,000,000 and it is believed these planes will be used on the projected Australia-U. S. service.

Meantime Australian National Airways, a private company owned by five steamship firms, has offered to begin immediately without subsidy a Sydney-San Francisco service, charging a one way fare of \$485. Three of the four DC4s purchased earlier by ANA already have been delivered but there is no indication that the government will consider ANA's offer.

Pan American Airways soon will reopen its prewar service to Auckland, New Zealand, but cannot extend the service to Australia until U. S. and Australian governments reach a bilateral agreement.

An interesting twist to the turbulent air picture in Australia is the government's permit to Roy Farrell and Co., a newly-organized firm with American capital, to operate charter cargo flights between Australia and China. Surplus C-47s are being acquired for the service.

## Greece Accepts Agreement

Greece has accepted the International Air Transport (Five Freedom) agreement but with the reservation that the country, "for the time being," does not wish to "grant or receive" fifth freedom rights. The Netherlands originally signed the agreement with the same reservation, later removing it, and it is expected that Greece will follow the same course.



Present at the signing of the contract for purchase of four Douglas DC-4s by the Government of Australia were, seated, Clifford J. Smart (left), U. S. representative for the Australian Department of Civil Aviation, and Donald W. Douglas, president of Douglas Aircraft Co.; standing, John Shaw (left), inspector for the Department of Civil Aviation, and J. W. Clyne, Douglas manager of foreign sales.

## SILA Contracts for Four Stratocruisers; Delivery Next Year

Swedish Inter-Continental Airlines (SILA) has signed a contract with Boeing Aircraft Co., Seattle, for four four-engined Stratocruisers, the double-deck commercial version of the B-29. Said to involve a \$6,000,000 transaction, the contract calls for delivery to begin early in 1947.

The CAB recently granted SILA a foreign air carrier permit for routes from Stockholm to New York and Chicago. Karl H. Larsson, SILA chief engineer, estimates the Stratocruiser will make the Stockholm-New York run in 14 hours.

Meantime SILA plans to start transoceanic services with Douglas DC-4 airplanes about May 1 with three round trips weekly. Survey flights have been made frequently with B-17 Flying Fortresses.

SILA recently increased its capital stock to 24,000,000 Swedish kronor to permit purchase of the new Boeing planes.

It is reported that SILA has received permission from Brazil and Argentina to operate a route between Stockholm and Buenos Aires via Paris, Lisbon, West Africa, Pernambuco and Rio.

## British European Airways Takes Over From RAFTC

British European Airways (BEA) has taken over most of the equipment of the 110th Wing of the Royal Air Force Transport Command and has begun civil air services on some of the routes. BEA will operate for a time as an affiliate or subsidiary of British Overseas Airways Corp. but will later acquire independent status as the British flag-line airline for the United Kingdom and the European Continent.

Sir Harold Hartley has been named

BEA chairman and other officers are expected to be: Gerard d'Erlanger, managing director; Philip A. Willis, technical manager; John Branncker, traffic manager; Group Capt. J. E. Tyzack, chief of maintenance.

Northolt Airport will be the main BEA base. Aircraft used for passenger services are chiefly Douglas DC-3 types and for cargo the Vickers-Armstrong Warwick transport. Services already are being provided from London to Paris, Brussels, Amsterdam and Copenhagen, and shortly to Rome, Naples, Warsaw and Athens.

## Panini Stock Acquired

A. L. Patterson, president of Aero Industries, New Haven, Conn., has acquired for his company 49% of the stock of Servicio Aereo Panini, one of the oldest Mexican airlines. Clyde Pangborn has gone to Mexico to conduct a survey to determine equipment needs of the airline and Patterson indicates that C-54s may be acquired for passenger and cargo purposes. Panini averages 16,386 miles flown per week of the 4,500-mile system. The line serves areas north, west and south of Mexico City.

## PAA Reduces CNAC Stock

The recently re-formed China National Aviation Corp. reduces the Pan American Airways' stock holdings to 20% from a prewar 45%. It is reported, although PAA continues its management contract.

## KLM to Start May 15

Royal Dutch Airlines (KLM) expects to begin regular commercial service between Amsterdam and New York on May 15 using Lockheed Constellations.

## PAA Enters Panama

The Panamanian Aviation Co., a Pan American Airways affiliate, expects to start domestic service within Panama sometime this year using two DC-3 airplanes.

## Caracas-Montreal Plans

Linea Aeropostal Venezolana (LAV), government-controlled airline in Venezuela, is reported to be planning a Caracas-Montreal service via Havana and Miami. Two C-54s have been acquired from U. S. surplus.

## New Chilean Airline

The Chilean government has granted a concession to the Chilean steamship line, Compania Sudamericana de Vapores, for airline service connecting Chile with other Latin American countries.

## Passenger Flights Added

Expreso Aereo Interamericano has added passenger service to its three weekly services between Havana and Miami which have been operating on a charter cargo basis pending CAB action on a foreign carrier permit.

## Cruzeiro Opens Route

Servicos Aereos Cruzeiro do Sul, the Brazilian airline, has inaugurated a new route; Rio de Janeiro-Sao Paulistas-Baru-Campo Grande-Tres Lagoas-Corumba-Puerto Esperanca-Fuente Velho-Manaos. DC-3s are being used.

## PAA Signs with TATA

Pan American Airways has signed a reciprocal ticket exchange agreement with TATA Air Lines of India which provides PAA passengers with connecting services through the southern portion of India when PAA begins service over its route to Calcutta from the U. S. TATA currently operates 3,000 miles of routes.

## New Panama Airport

F. H. McGraw & Co. has been awarded the contract to build a new \$3,860,000 national airport at Panama City. The project will be financed by a \$5,000,000 public bond issue and by a \$3,000,000 loan from Panamanian banks.



## What Airline Executives Say About the New Martin Transports



**C. Bedell Monro, President  
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"... will curtail ground time, reduce operating and maintenance costs, offer new comforts and safety and ultimately pave the way for lower fares."



**Capt. Eddie Rickenbacker, President  
and General Manager, Eastern Air Lines**

"Our engineers have made a long and close study of planes being offered for near-term deliveries by manufacturers and they concluded that Martin had designed the best of its class."



**Carleton Putnam, President  
Chicago and Southern Air Lines**

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**T. E. Braniff, President  
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**W. A. Patterson, President  
United Air Lines**

"... will round out our equipment picture providing the same comfort and speed advantages in inter-city service as will be offered by our four-engined Mainliners on through, long-distance flights."

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## AIRCRAFT

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# Release of Airline Seats Hits West Coast Charter Outfits

## Shrinking Traffic Portends Era of Hustling for Profits

By FRED HUNTER

**FIXED BASE** operators on the West Coast, especially in the Southern California area, are gearing themselves for the end of the honeymoon.

Geographical circumstances and restrictions on airline and train travel combined to make promotion of business the least of the troubles for the charter service operator based at a Pacific Coast airport for the last year or more. All he had to do to get more business than he could handle was to print a batch of cards carrying about five telephone numbers—to make sure somebody would be available to get the calls from eager customers. It was as simple as that.

But now the long waiting lists which made the charter operators glow with consummate happiness are beginning to shrink. Seats are opening up on the airlines.

"The character of charter flying is going to change entirely," declared Kenneth McComb, fixed base operator at El Monte Airport, near Los Angeles.

"The charter business is short-lived," said Marvin Whiteman, operator of Whiteman Airpark in the San Fernando Valley.

"Many people will continue to prefer to fly charter," asserted Mike Day of Air Charter Service at Lockheed Air Terminal.

The effect of the release of airline seats by the military on Feb. 15 began to be felt almost immediately by the West Coast charter operators.

Charters were being flown out of Los Angeles airports with almost scheduled regularity to San Francisco, to Las Vegas, to Dallas, even to Chicago and New York with passengers who couldn't make airline reservations. Kenneth McComb, for example, was getting 50 hours of plane utilization a month without half trying.

"It will take a lot of hustling to get that in the future," he remarked.

No one worried about return loads. A visit by the pilot to almost any hotel transportation desk or airline ticket office or even a bus depot was sufficient to scare up back-haul revenue.

The change in the situation is quite apparent at Lockheed Air Terminal. The station loud speaker frequently calls attention to the Air Charter Service desk. It takes more plugging now.

Air Charter Service has the concession at Lockheed Air Terminal. It is operated by D. W. Mercer, whose fleet consists of twin-engined Cessnas, a BT-13 and a Vega. In addition, three other operators, Mike Day, Wilson Wiley and Howard Edgerton, operate Cessnas through his desk in a cooperative arrangement.

"It is quite true that we have an advantage over the average charter operator because of our concession at the Lockheed Terminal," said Day. "We have, however, built up a very extensive repeat business. Many of our customers

prefer to fly with us than on a regular airliner. There is more elasticity in our service and where there is a party of three or four people traveling together it is more pleasant to fly in a private ship."

Day and his associates feel there will continue to be considerable charter business to points served by airlines as well as those not served because there are a sufficient number of people who like the personalized service. This especially applies to points where the service is indirect, like Reno. By airline, it is necessary to go via San Francisco or Sacramento and change planes.

Taking the opposite view of the charter future is Whiteman, whose airpark in the San Fernando Valley is coming to be regarded as a model airport for personal plane flyers. Whiteman will continue his charter operations simply as a service to patrons of the airpark.

Businesslike and realistic in his approach to the business of flying, Whiteman holds that after the airlines complete their expansion there will be little room left for the charter flyer.

"Practically every community in the country will have airline service," said Whiteman. "Charter operators will have to cut rates to compete and if they cut rates they can't show a profit. As a matter of fact, rate cutting already has started."

## Valuable Slack-Period Charter Business Goes Untouched by Fixed-Base Operators

By SYDNEY CARTER

There may be plenty of charter business awaiting the local fixed base operator even at rates of 20c a passenger mile one way or 10c round trip if he will do a little selling and go after it, a non-aviation business man in an eastern city recently told me.

What's more, he added, the type of business he has in mind would not require fast, deluxe taxiplanes, but could be handled with Cub trainers, Ercoupes or whatever type craft the operator happened to be using for student instruction and rentals.

As a case in point he cited two instances in the last six weeks when he, a feed manufacturer and dealer, would have made use of such service had he known it were available. On the first, his mill had broken down and he had to drive 70 miles to pick up a replacement part. At the standard rate of seven cents a mile for a car, this cost the company \$9.80 plus the five hours of his time it took to get there and back.

The same result could have been handled, he said, by calling the local operator to fly up in a Cub, pick up the part which would have been waiting for him at the airport, and fly it back, at a total cost of only \$14 for the round trip. And it would have meant a reduction of at least two hours in down time for the mill, and a saving of 4½ hrs. of his own time allowing half an hour to drive out

Taking the middle of the road viewpoint is McComb. "The charter operator won't make the long profits he has been making, but he should be able to earn a return on his investment by watching costs sharply and going out after new business," said McComb.

Charter business, in McComb's opinion, will come largely from wedding parties, hunting and fishing excursions, resort travel and, of course, passengers going to points not served by an airline.

McComb may be said to be a typical fixed base operator, although he may possibly be a little more visionary than the average. He gives flight instruction and makes charter flights, using both single and twin-engine equipment, employs two full time pilots and has several others on call.

Of the two, McComb regards flight instruction as having the greater profit potential because of the increased interest in personal flying. The principal problem is that flight students want to take their lessons on week-ends and equipment lies idle during the week. To counteract this McComb is instituting a lower rate for week-day instruction. He also is planning a flat price course, \$350 to learn to fly, and he has made arrangements with Bank of America for financing at approximately \$7 a week. The advantage is that although the student has only the \$7 weekly payments to make he can run up his 45 hours of flying time as fast as he likes.

McComb's figures show that a twin-engine Cessna used in charter flying costs approximately \$20 an hour. This comes of watching costs closely. Other operators put the figure at \$22.50 to \$25 an hour.

to the airport and pick up the part when it was flown in.

Occasion No. 2 involved a commission sale he lost recently. A prospect for some poultry plucking machinery called up. He was definitely interested, but he wanted to see the machinery in operation and he lived 130 mi. away. The business man just didn't have the time to drive down and get him right then, so he put him off until he did have time, and by then the prospect had made other arrangements. Yet had he known about the local charter service, he said, he would have told the prospect that he would send an airplane to get him whenever he wished. Total cost for the two round trips to fly the prospect up and back would have been only \$52, and the chances were that he would have closed a deal netting him a \$500 commission.

The above examples are typical of other prospective customers ranging from doctors on emergency cases to the business executive who wants to visit a customer or associate in a neighboring city 50-100 miles away.

More and more fixed base operators are becoming aware of these possibilities, but are still doing nothing about them. For example, one recently said, when told about opportunities that had been let slide in his own town, that he realized the business was there, but that students came first, and he didn't want to advertise for commercial accounts and then not be able to take care of them.





ILLUSTRATED: BOEING STRATOCRUISER



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ance of this compass recommends it as a replacement for the conventional Directional Gyro—and, as such, it is now accepted by the CAA.

The Gyrosyn is, in fact, a Directional Gyro Synchronized with the earth's magnetic field by means of a flux valve which can be mounted in the wing tip. The flux valve is small, light (1 lb.), easy to install, and has no rotating parts.

For further details, write our Aeronautical Department.



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# Caribbean Line Flies DC-3s In Daily NY-Miami Service

**Operator Claims 1½ Million  
Passenger Miles Since Jan. 1**

**P**OTTS BROTHERS Caribbean Air Transport Inc., with headquarters in the News Tower Bldg., Miami, is now operating daily service between New York and Miami with DC-3 equipment and at the end of the winter season will probably fly out of Miami through the Caribbean.

Although the combined name is used, Potts Brothers and Caribbean Air Transport are separate entities, the former selling the tickets and handling the traffic, the latter operating the airplanes.

Caribbean Air Transport, headed by Roger Edwards, Miami businessman and private pilot, started operations Jan. 1, 1946, and is now flying two DC-3s, with three more being modified. One-way fare to Miami is \$85 plus tax.

Since beginning operations the company claims to have flown 1,500,000 passenger-miles. Seven-and-one-half hour service is advertised, with one intermediate stop for refueling. The planes, which have Warren McArthur reclining seats, carry a crew of three—pilot, co-pilot and stewardess. Box lunches are served en route. Only one tin has been canceled at an intermediate stop, and in this case passengers' hotel and food expenses were borne by the company.

The company has eight pilots, most of whom flew with Air Transport Command on the Fireball, U. S.-India. Before entering the Army the pilots flew for Pan American Air Ferries. Only two of the pilots have less than 3,000 hours, with the most experienced having over 6,000. Chief pilot is D. E. Husted, who flew the Fireball and with PAAF. Four stewardesses are employed, two obtained from airlines, one former WASP and one without previous experience.

Potts Brothers' ticket office in New York is at the Devon Hotel; in Miami at the McAllister Hotel. Limousine service is available to the airports, and the company sells air travel insurance.

## Trans American Uses Lodestar Equipment

Passenger service between New York and Miami with Lockheed Lodestar equipment is being offered on a non-scheduled basis by Trans American Airways, 420 Lexington Ave., New York.

The company, operating since last December, advertises that it will fly anywhere, anytime, but for the present is confining its flights almost entirely to New York-Miami. This, however, will not hold true in the future. The company has just purchased a six-passenger Grumman amphibian from surplus which it plans to use out of Miami through the Caribbean. Other plans for the use of its two Lodestars also are being formulated but are not ready to be announced.

Head of TAA is Edgar J. Wynn, who flew for the Air Transport Command, TWA's Army contract operation.

TAA, offers six and one-half hour service to Miami for \$100 plus tax (against airline fare of \$56.65 plus tax), and has, like other non-scheduled operators, been carrying full loads northbound recently but only light loads southbound. Eight pilots and co-pilots and two stewardesses are employed. Among the pilots are Capt. E. Browder, former Lockheed test pilot, and Capt. Maston O'Neal, formerly of National Airlines. Capt. Harold Curtiss, former Army instructor, will fly the Grumman.

Wynn asserts that he plans to keep his service on a charter, non-scheduled basis, and is not interested in obtaining a certificate from the Civil Aeronautics Board.

## Trans-Marine Airlines, Inc., Charters Colonial DC-3s

Trans-Marine Airlines, Inc., 112 Park Ave., New York is operating non-scheduled airline service between New York

and Miami with DC-3s chartered from Colonial Airlines. The company owns a Noorduyt Norseman seaplane with which it operates charter service out of Miami to such points as Cat Cay, Bimini, Nassau, and the Florida Keys.

Incorporated in New York in February, 1945, Trans-Marine inaugurated non-scheduled service between New York and Martha's Vineyard, Nantucket and Cape Cod. The company plans to assign three DC-3s to this service next summer.

In addition to these services, Trans-Marine is establishing an industrial aid division to provide air transportation for business executives on a contract basis. It proposes to purchase five Beechcraft D-18Cs for this service.

Trans-Marine maintains a ticket counter in the lobby of the Murray Hill Hotel, New York, where limousine service is available to passengers going to LaGuardia Field. Check-ins are made at Colonial's counter at Gate 15.

Contacts are made through newspaper advertisements, radio time, and through personal and mail contacts made with travel agencies.

## Transair's C-54s, C-47s Fly New York-Miami Daily

Transair, Inc., 730 5th Ave., New York, is operating daily charter service between Miami and New York with reconverted C-54 and C-47 equipment, except Sundays, when only the C-54s are flown. Fare is \$100 plus tax one-way for either type of equipment.

The air carrier, headed by Col. D. Howe and Hugh Fenwick, handles its traffic through Dresser, Inc., Miami and New York travel agency. Bradley Dresser, president of the company which bears his name, formerly was with Thomas L. Cooke & Sons.

In addition to its regular Miami-New York flights, Transair operates a weekend special with C-47 equipment, flying from New York to Nassau, via Miami on Saturday, and returning on Monday morning. The carrier's equipment includes three C-54s, five C-47s and two Lockheed Electras.

The approximately 15 pilots employed are former ATC and AAF personnel.

In addition to Transair, Dresser has been approached by three carriers within the past week to handle reservations and ticketing for them. They are Otto Airlines, Modernaire, which has leased C-47 bucket seat equipment from J. P. Riddle Co., Miami fixed base operator; and Universal Air Lines, which also operates bucket-seat C-47s.

Empire Air Lines, Inc., an Idaho corporation, has purchased the fleet of three Boeing 247-Ds of Zimmerly Airlines and has assumed operation of the latter's intrastate routes in Idaho. Empire, incorporated in January, 1945, is capitalized for \$500,000. Headquarters will be maintained at Lewiston, Idaho. The company is headed by Bert Zimmerly, who founded the airline which bore his name.

Lavery Airlines, headed by Bill Lavery, veteran Alaska flyer, is in the process of reorganization to establish mining camp runs in the Territory on a non-scheduled basis. Lavery was one of the first scheduled operators in Alaska. He sold his certificated route to Alaska Airlines in 1942 after seven years of opera-



DC-3 equipment used by Caribbean Air Transport, Inc.

# It's a tough job to earn that second stripe!

A Chicago and Southern Air Lines first officer must serve two years and fly 2000 hours before he's eligible for captain training. Then comes the test program. He draws up flight plans, makes all flight decisions, takes off and lands under every possible condition, carries out all captain's duties under rigid supervision. Every move he makes as an embryo captain is closely watched and precisely graded. Just one small slip, and he must start again as first officer. Yes, that proudly worn second stripe is proof of hard work and unusual ability.



**HOW'S THE WEATHER?** Pilot taking test confers with airway forecaster at U. S. Weather Bureau before taking off. He observes weather in flight, reports conditions to flight control, forecasts for his own use.



**CHARTING FLIGHT PLAN.** On basis of winds and storm areas he decides on smoothest altitude for passenger comfort and best use of tailwinds. He carefully estimates time over each radio check point along route.



**PLENTY INSTRUMENTS TO WATCH!** Besides operating plane, captain and first officer must listen to radio range, determine ground speed, check navigation, maintain radio contact with air traffic control.



**LINK TRAINER** gives all Chicago and Southern pilots practice in instrument flying. Pilots also "fly under the hood" in curtained cockpit to practice their instrument flying ability in actual flight.



**FINAL TEST COMES** when he makes three hour flight with chief pilot. Chief pilot puts him through nearly every situation with which captain might be faced. If he wins here, he has earned second stripe!



Even after winning that second stripe, no Chicago and Southern pilot can rest on his laurels. He is periodically called in for refresher courses, and at least twice a year he must demonstrate his flying ability to a company check pilot. We are very proud of our pilots. Many of them have flown over a million miles. They know that holding to the highest possible standards benefits Chicago and Southern Air Lines and the entire airline industry.

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tions. Lavery's equipment includes three Stinsons, a Republic Seabee, and two AT-6s to be used for spare parts. A C-47 will be added to the fleet.

**East Coast Aviation Corp.**, Hills Grove, R. I., has been organized to provide non-scheduled air cargo service to all parts of the country from Hills Grove, Boston and New York. The company, headed by John T. Griffen, is converting its first C-47. Griffen formerly was a check pilot for American Overseas Airlines and chief pilot and operations manager of Northeast Airlines.

**Spokane Northern Airways, Ltd.**, a newly organized company, will begin operations between Spokane, Wash., to Prince George, B. C., next fall with three DC-3s. Morning departures will be made from both Prince George and Spokane, according to Col. Hillford R. Wallace, company official.

**American Air Express Corp.**, 522 Fifth Ave., New York, has been organized to operate transcontinental service for air express and cargo. Schedules will commence Apr. 2 with DC-3 equipment under a rate structure approximating those of commercial airlines. Charges will include, without additional cost, door-to-door pick-up and delivery service. Branch offices are to be established in 33 cities covered by the company's six routes.

**National Skyways Freight Corp.**, Los Angeles, has signed contracts for three west-bound coast-to-coast flights a week and one east-bound flight with freight consolidators on the two coasts. Gibson Air Freight Co., New York, is the contractor for the westbound flights to carry garments and furs, and Domestic Air Express, a Los Angeles consolidator, is the eastbound contractor.

**Empire Airlines** was scheduled to begin daily service Mar. 14 between LaGuardia Field, N. Y., and the Tri-Cities airport which serves Binghamton, Johnson City and Endicott, N. Y. Schedules call for two trips each way with a flying time of one hour, 10 minutes. (This company is not to be confused with Empire Airlines, Inc., organized by Bert Zimmerly to operate in Idaho).

**Air Cargo Transport Corp.**, operating out of Newark, N. J., has signed contracts with the New York Times and Herald Tribune for delivery of their late editions to Washington, D. C.

**Pacific Air Lines** began operations between Los Angeles and Sacramento Mar. 6, flying two non-stop round trips a day with converted C-47 equipment. Organized before the war, Pacific Air Lines was forced to halt operations at the outbreak of hostilities when the Army and Navy took over its Lockheed Lodestars. Earl B. Gilmore, Los Angeles oil man, heads the company as president.

**Sax Aviation Co.**, is operating a non-scheduled service once a week between

Dickinson, N. D., and Minneapolis, Minn. Equipment includes both twin-engine Cessnas and Beechcraft. Gilbert Saxowsky is general manager.

**Public Flyers, Inc.**, 420 Lexington Ave., New York, is operating a "non-certificated" cargo service from Nassau Air Park, Princeton, N. J., with DC-3 equipment. Four DC-3 aircraft are on order by the company.

**Southern Commercial Air Transport, Inc.**, Shreveport, La., is employing a Noorduyn Norseman in a non-scheduled freight operation, which thus far has concentrated on hauling fresh sea food from the Gulf Coast to southern inland points. Company, headed by Paul R. Davis, calls itself the "SCAT" system.

**Slick Airways, Inc.**, San Antonio, Tex., on Mar. 6 completed its first contract with Time, Inc., flying two plane loads of Time magazines from Chicago to Ft. Worth. Slick has a fleet of 10 Curtiss Commando C-46Es converted to commercial use and is operating a contract cargo service. Company officials include Earl F. Slick, president; Samuel C. Dunlap III, executive vice president; Charles F. Urachel, Jr., treasurer; W. B. Langmore, vice president-sales; E. A. Warren vice-president-operations; Lewis J. Moorman, Jr., secretary.

## 7 Miami Contract Carriers Form Non-Profit Association

Representatives of seven companies operating passenger aircraft on charter flights met in Miami recently and organized the Contract Air Carriers Association, a non-profit organization to improve public relations and jointly solve business problems.

The companies are: American Air Export & Import Co.; Caribbean Air Transport, Inc.; Intercontinental Air Transport, Inc.; Peninsular Air Transport; Trans-American Airways; Trans-Caribbean Air Cargo Lines, Inc.; and Veterans Airline.

The association's members are sharing use of ground facilities and equipment, and reciprocate in placing overflow business aboard other members' aircraft. Roger D. Edwards, head of Caribbean Air Transport, is president of the group and Emmett C. Choate, Miami attorney, has been retained as counsel.

The seven companies are now operating 16 aircraft, mostly DC-3's, into Miami with an average of 37 trips in and 37 out each week. Each company maintains its own office in Miami. Additional firms, including some cargo carriers, are expected to join the association shortly.

## Intrastate Firm Certificated

Arizona Corporation Commission has granted a certificate of public convenience and necessity to Mercury Flying Service of Sky Harbor Airport, Phoenix, Ariz., which plans to provide passenger service in amphibians from Phoenix to the state's natural and artificial lakes. Passenger service is to be limited to sportsmen on hunting and fishing trips. No carriage of freight, express or personal property is permitted except such as is necessary to the use of passengers in their hunting and fishing endeavors.



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# American's Transcon 'Phone Speeds Reservations Data

## Boston-LA Wire Takes Over Many Teletype Transactions

By GEORGE N. SHUMWAY

WHAT IS SAID to be the first private transcontinental telephone line ever established has been placed in service by American Airlines as a means of speeding transactions for passenger reservations. Engineered by the Bell System, the leased line is known as the PLF (private line phone). The PLF has taken over a large percentage of transactions previously handled by PLT (private line teletype), enabling agents to complete two to four transactions per minute, whereas teletype transactions are measured in terms of hours.

The PLF parallels American's transcontinental airline route. Boston-Los Angeles, linking New York, Washington, Dallas and intermediate stations, with the exception of Tri-Cities and Texarkana, which soon will be connected.

The telephone system is divided into four segments—Boston-New York, New York-Washington, Washington-Dallas, Dallas-Los Angeles—each virtually self-contained. Although in an emergency it is possible to connect Boston and Los Angeles, in practice individual stations along the transcontinental line converse only with stations in their respective segment. This enables Philadelphia, in the New York-Washington segment, to confirm return passenger space from Washington via PLF, but confirmation of return space from Los Angeles is handled by teletype as before. Were each station permitted to talk with any other station on the transcontinental line, an impossible confusion of traffic would result, American spokesmen point out.

The busiest five stations on PLF—Boston, New York, Washington, Dallas, and Los Angeles—employ agents as "riders" on the line who perform as full-time monitors. Washington, for example, has a "north rider" handling conversations from Washington through Baltimore, Philadelphia and New York. The "south rider" handles conversations on the line from Washington to Dallas. The "big five" on PLF have several "positions" or

connections, all routed through switchboards operated by riders. The number of positions used at busy stations varies from five to 10 but usually the following agents may be connected for transactions on PLF: Date reservations, future date reservations, quote control, off-line reservations, departure control, and others, depending on local requirements.

Smaller stations, where the volume of business does not justify the services of full-time riders, are connected to PLF with loudspeakers. Agents speak on the line, when signaled, using headset and mouthpiece equipment. Plans for the installation of automatic dial systems for the benefit of smaller intermediate stations are being worked out.

Uniform procedures have been established for each type of telephone transaction. Conversations follow a strict form: riders and agents do not use "please," "thank you" or other niceties of speech. Master controllers who monitor the system from New York and Dallas have authority over telephone traffic, procedures, and time limits for each transaction.

The telephone line's performance as a time saver has been exceedingly encouraging, American spokesmen say. The present line undoubtedly will undergo many improvements in months to come and additional lines soon will be installed to serve other domestic routes operated by American.

## Continental Leases Part of Denver Modification Center

Continental Air Lines has leased more than half of the Continental-Denver modification center from the city of Denver, and will utilize the space for maintenance, overhaul and conversion as well as for the company's general offices.

Built during the war for the modification of B-17 and B-29 bombers at a cost of \$6,000,000, the plant was turned back to the city of Denver by the AAF Feb. 1. Two hangars, approximately 200 by 600 feet constitute the principal installation, along with a 90-acre concrete parking apron.

## Delta Installs Buffets Of Dural Aluminum in C-54s; Cost \$15,000

A new dural aluminum buffet, installed at an initial cost of \$15,000, is providing 44 hot meals on Delta Air Lines C-54 transports, which went into service on the system Mar. 6.

Designed by John F. Nycum, Delta chief engineer, the buffet features seven food trays, each with slide racks for individual food trays. These trays are fitted to hold cardboard inserts with cut-outs where casserole dishes, beverage cups, salad and desert dishes, and water glasses



Delta's dural aluminum buffet

can be fitted to avoid sliding while the plane is in flight.

Delta has arranged the installation of five two-gallon liquid containers with spigots along the top of the buffet—three to carry hot drinks and two for cold beverages. Refrigeration is maintained by dry ice.

Four electrically heated and thermostatically controlled casserole carriers are just beneath the liquid containers at the top of the buffet. Each stainless steel carrier holds 12 individual casseroles, two to each of the six trays.

The new carriers, equipped with special doors and with trays arranged horizontally, are more efficient and easier for stewardess handling than the old "jumbo" jugs. Carriers retain 105 degree heat.

Three convenient storage drawers are fitted into the center section of the buffet, and a small refrigerator—door flush with the top surface of the serving table—is situated at the back of the buffet. A trash drop at the right side and the purser and stewardesses' light control board, complete appointments of the buffet.

## Continental Air Lines Posts Fare Reductions Up to 19%

Continental Air Lines announced reductions in passenger fares ranging up to 19%, effective March 1. The reductions apply between numerous points on the airline's system, as well as interline.

Fare between Kansas City and Denver was reduced from \$27.95 to \$24.95, and between Denver and Wichita and Tulsa to \$26.95 and \$21.75 respectively.

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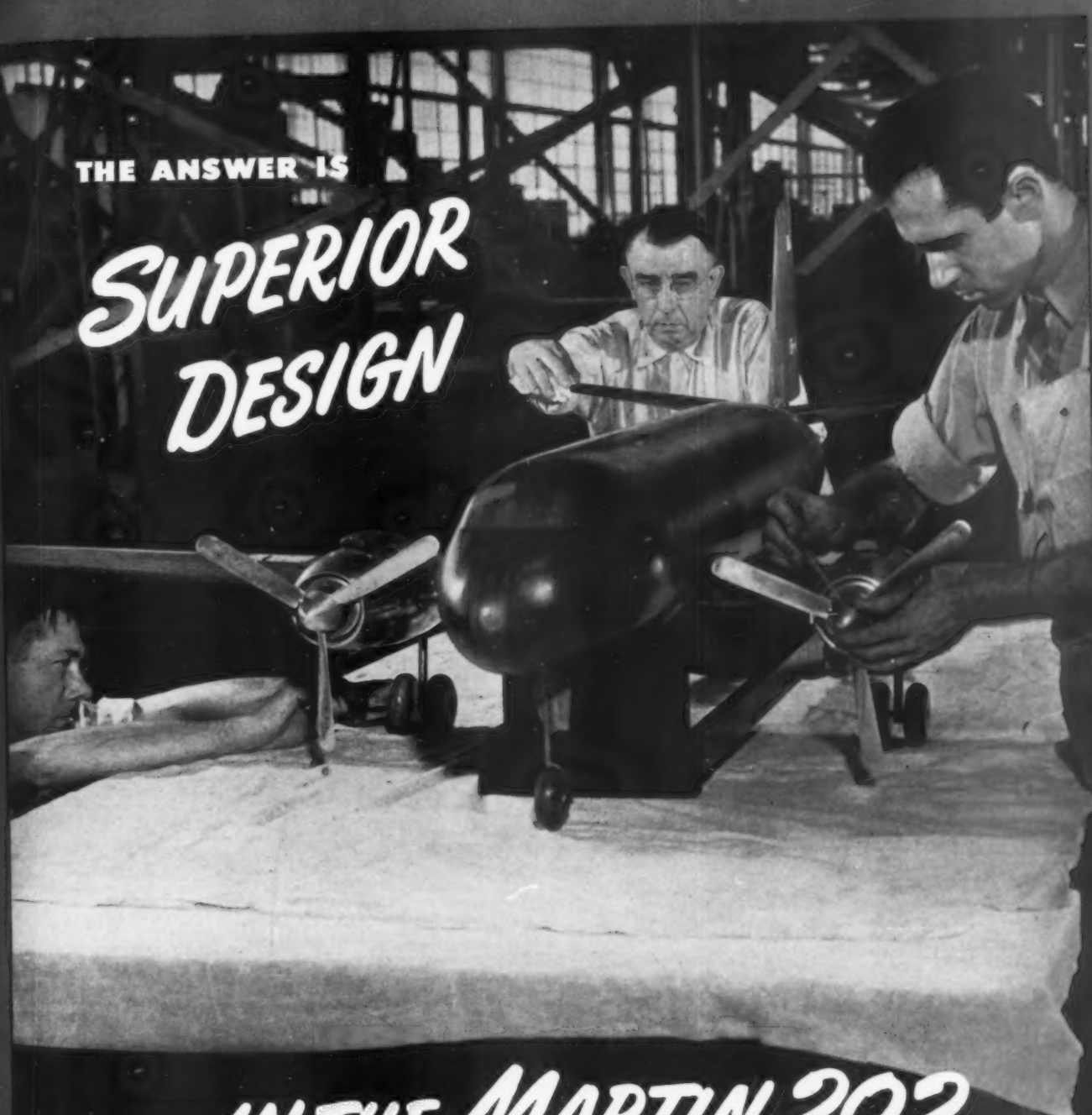
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THE ANSWER IS

***SUPERIOR  
DESIGN***



***...IN THE MARTIN 202***

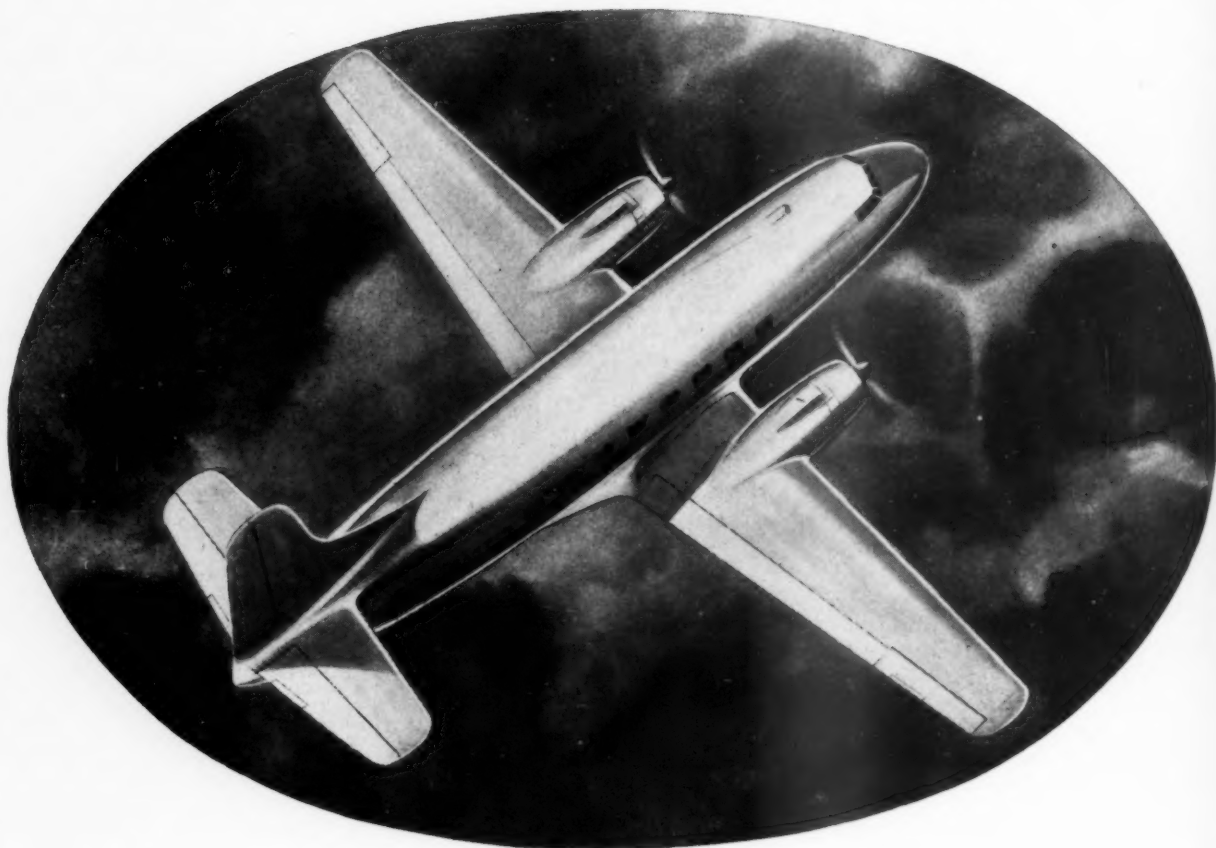
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**HOW AIRLINE OFFICIALS, ENGINEERS, PILOTS AND  
HELPED CREATE THIS *"SUPERIOR DESIGN"***



## **SIX GREAT AIRLINES CHOOSE MARTIN 202**

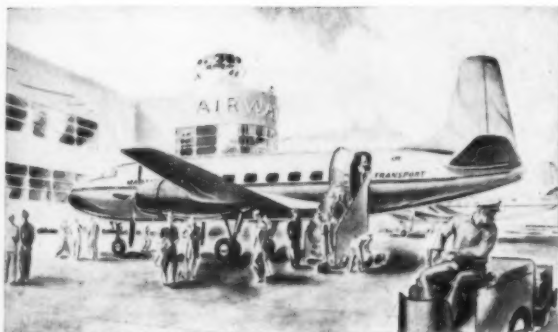
With Braniff, Chicago & Southern, Colonial, Eastern Air Lines, PCA and United Airlines, Inc., already "on the line" to fly the Martin 202—and with others scheduled to follow, this new advanced transport will be plying the airways early in 1947. To achieve superior design, Martin engineers scattered over the major domestic airlines and asked the members of each operational department, "What do you want in an airplane?" The answer is the Martin 202.

**UNITED STATES**

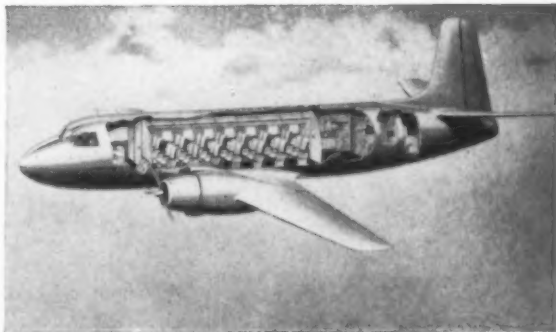


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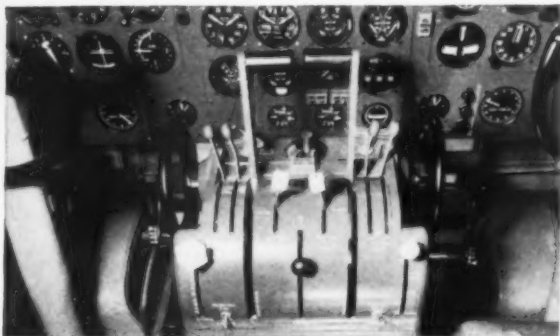
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**AIRLINE OFFICIALS**—The new Martin 202 is a favorite with airline management because it is fast, dependable, and economical.



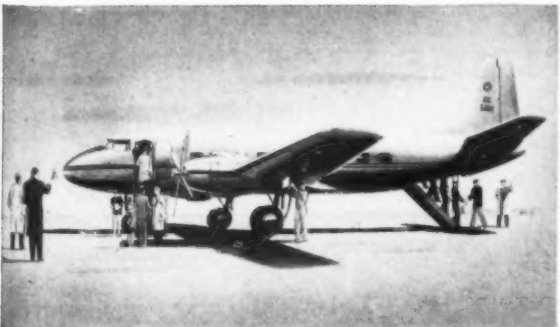
**AIRLINE ENGINEERS**—They like the compact efficiency of the Martin 202. Its clean design and roomy interior give smooth operation.



**PILOTS**—Controls and instruments are conveniently grouped at fingertips. No awkward reaching overhead or behind. Clear, complete vision.



**HOSTESSES**—A separate compartment for the hostess with direct telephone to the pilot's cabin. Everything within easy reach.



**MAINTENANCE MEN**—Under-wing fueling, accessibility to all apparatus and equipment, simplicity of grouping make the Martin 202 easy to service.



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**FOR ANY  
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## UAL Names Managers In Traffic and Sales

With integration of cargo sales and promotion activities into the traffic-sales department of United Air Lines (forecast in *AMERICAN AVIATION*, Feb. 15), the company has effected a realignment of department heads, beginning with the appointment of Paul E. Burbank as manager of cargo sales. Burbank formerly was development manager of the air cargo department.

Norval B. Rader, former eastern sales



Ruddick

Burbank

Rader

manager recently returned from the Marine Corps, becomes manager of sales; N. B. Fry, who has been acting traffic manager, becomes manager of traffic; and H. J. Merchant and S. R. Newman remain regional managers of traffic and sales, eastern and western divisions, respectively.

Robert M. Ruddick, territorial assistant at New York, has been designated European manager of United with offices in London. The company is reopening its London office to maintain contacts with North Atlantic air and steamship companies.

W. D. Dilworth, who formerly held the title of rate and tariff analyst in United's air cargo department, has been named superintendent of rates and tariffs.

## Brig. Gen. Nelson Becomes Technical Adviser of SILA

Brig. Gen. Erik H. Nelson has been named technical adviser to the Swedish Intercontinental Airlines (SILA). Nelson, who in 1923 became one of the first to fly around the world when he and Col. Leigh Wade circled the globe in an Air Corps flight, was once vice president-sales and a director of Boeing Aircraft. He was largely responsible for developing Boeing Air Transport Co. which later became United Air Lines. He will make his headquarters at the Swedish airline's executive offices, 270 Park Ave., New York



Nelson

## Zeimer Returns to Russell

Capt. Howard A. Zeimer is returning to Russell Uniform Co., New York, as sales manager after an absence of almost four years during which time he was a contract and purchasing officer at several Army Air Force bases.

# Airline Commentary

WE'VE HEARD lots of people warn recently that with the advent of four-engined equipment on the airlines something was going to have to be done about parking and taxing space at airports . . . But it took a visit to LaGuardia Field to bring this home to us . . . The aprons there are crowded enough, but when you toss several four-engined planes into the picture it becomes somewhat of a mess . . . We stood there (and held our breath) while the pilot of a Pan American Constellation tried to jockey his plane past the DC-3s parked at the loading areas . . . It took him several minutes, and to say that it was close is quite an understatement . . . When you get a flock of those airplanes (wing span, 123 ft.) milling around you soon run out of space . . . There's even talk that some airlines are considering operating from their hangars at LaGuardia rather than bring the big planes up in front of the terminal building . . . And if it's that bad at LaGuardia it's as bad or worse elsewhere . . . Some changes are going to have to be made . . .

We want to offer congratulations to TWA on the successful completion of the Cardinal flight to Rome . . . In our opinion, this was an historic flight, one in which TWA undertook a tremendous responsibility . . . Its successful completion should do much for trans-Atlantic air travel . . .

We have quite a few friends among airline reservations personnel, and we've heard more than one of them moan about the no-show problem (those people who make reservations and then fail to show up for the flight) . . . Some of them have said that they wished they could sell airline space on the same basis that theater tickets are sold—good for one performance and no money back if you don't attend . . . This, we're afraid, would be quite hard to do . . . Last fortnight we were in New York looking at some of the many non-scheduled airlines that have started service, and in one of their booklets we came across this: "Because of the limited space available, reservations made by telephone will be subject to resale unless taken up within six hours of the time when made. Reservations made within six hours of departure time must be taken up immediately. If reservations are canceled by the passenger more than 48 hours before departure time, the fare will be refunded. If canceled by the passenger within 48 hours of departure time, fare will not be refunded unless seat is resold" . . . Sounds interesting . . . We'd like to know how it works . . .

It came to our attention recently that Civil Aeronautics Board Examiners Charles J. Frederick and Joseph L. Fitzmaurice took a ride over All American Aviation's pickup route to see how mail and express is picked up and dropped in flight . . . These examiners have to listen to much new route testimony involving AAA and other applicants, so we guess they thought they'd have a better picture if they saw the operation firsthand . . . Anyway, this news item brought to mind that two years ago, after we'd ridden the pickup route, we suggested that a CAB member make the trip, and we thought that Josh Lee, the newest member, was a likely candidate . . . Inquiry shows that no member of CAB, which awards routes and sets mail pay, has yet ridden a pickup plane . . . So, we repeat the suggestion . . . How about it, Mr. Lee? . . .

Delta Air Lines' Captain Schwaemmle brought a trip into Jackson, Miss., recently and because of bad weather was unable to proceed beyond that point . . . so he called up operations to give them some necessary facts—but he didn't get operations; he got reservations . . . This department, incidentally, was snowed under, what with bad weather and everything . . . Well, as always happens, Capt. Schwaemmle was put through to a new reservationist . . . He told her he'd come in on Trip 15, which had canceled and that he could be reached at a certain hotel . . . The reservationist fumbled through a card file and then gave out with: "Oh yes, Captain, we have you on the waiting list for the next westbound. Can't give you much encouragement because we have bad weather west" . . . So Capt. Schwaemmle, playing the straight man in the act, answered: "Yes, I know. Thank you ma'am, and hum" . . . Did they reserve you that nice lefthand seat when the flight resumed, captain? . . .

For many years stewardesses have been asked that old question, "Where are we?" . . . So she goes to the captain and is told that they're just south of Podunk . . . We were very interested to learn the other day that this same question is cropping up on trans-Atlantic flights, only it isn't quite as easy to answer . . . One airline told us that they have prepared maps showing latitude and longitude, so that a brief check with the navigator is sufficient to answer the passengers' questions . . . Some people must be curious . . . On our Atlantic crossings with ATC we weren't particularly interested, because it's the same body of water, no matter where you're looking at it . . . Sleeping is much more fun on an over-water hop . . .

An ingenious ticket agent for Western Air Lines thought he had the problem of short space from Los Angeles to New York solved when a passenger snapped up his suggestion that he take Western to Lethbridge, Canada, and Trans-Canada to New York . . . A second passenger also was quite willing to take the extra time and pay the bigger fare—\$188.05 plus tax instead of \$118.30 plus tax . . . Then the bubble burst . . . Both his own company and TCA "unable" him on his third request for space . . . (What was wrong with LA-Mexico City-NY, bub?) . . .

ERIC BRAMLEY

## Paris Run Stepped Up To 1 Round Trip a Day; PAA Surveys Pacific

TWA stepped up its transatlantic services between the U. S. and France from three round trips a week to a trip a day effective Mar. 10, with all flights originating at Washington. Constellations are being used on all flights.

Intermediate stops between Washington and Paris are made at New York on all flights, while Monday's departure and Wednesday's return flight will stop at Philadelphia. Thursday departures and Saturday return flights are serving Boston.

TWA also was scheduled to further expand its European services Mar. 15, with flights going on from Paris to Cairo, and with the Lisbon-Madrid-Rome segment of its route to be opened.

- Pan American Airways got Constellations into service in the Pacific, with a survey flight between San Francisco and Honolulu, preparatory to reestablishing regular passenger service between San Francisco, Los Angeles and Hawaii on Mar. 15.

- On Apr. 15, PAA will double its Constellation service, with morning and evening departures in both directions.

- Meantime, Pan Am's Brazilian affiliate, Panair do Brazil, planned to open Constellation service between South America and Europe within a month. Two weekly flights from Rio to Lisbon, London and Paris are planned.

- Additional service between U. S. and Europe was promised by KLM Royal Dutch Airlines, which expects to begin regular flights between Amsterdam and New York with Constellations on May 15.

- While awaiting delivery of Constellations, British Overseas Airways Corp., discontinued Boeing flying boat service between Baltimore and the United Kingdom. Service will be maintained between Baltimore and Bermuda. BOAC has five Constellations on order, with delivery expected later this year.

## New Services: Delta and United Open C-54 Schedules

DELTA AIR LINES inaugurated service with 44-passenger C-54s with express flights between Chicago and Miami on Mar. 6. Flights are being operated non-stop between Chicago and Atlanta, with subsequent stops at Savannah and Jacksonville, reaching Miami 8½ hours after leaving Chicago.

Delta also plans C-54 service between Ft. Worth, Dallas, Jackson, Miss., and Atlanta, and will have seven of the four-engine aircraft in service on its system by June 1.

Mar. 6 also marked the beginning of TWA's three daily non-stop flights between Chicago and New York with Constellations. Eastbound flights on the 51-passenger ships called for a flying time of 3 hours, 5 minutes; westbound, 3 hours, 30 minutes.

United Air Lines got its C-54 transcontinental flights underway Mar. 1, featuring 12¾ hour eastbound flights

to the Atlantic coast. Flights from New York to San Francisco stop only at Chicago and Denver.

PCA added a second C-54 to its fleet this one seating 58 passengers. The larger aircraft is being used for service between Washington, Norfolk and Chicago. The company will have four C-54s in operation by Mar. 20.

Other new services included:

Eastern Air Lines—An additional round trip between Boston and Atlanta, via Newark-New York, Philadelphia and Washington, D. C.; a seventh round trip daily between Chicago and Miami; a fourth round trip daily between Detroit and Miami.

Mid-Continent Airlines—Inauguration of service into Mason City, Ia., on Mar. 15, with flights making connections to Des Moines, St. Louis, New Orleans, Rochester and Minneapolis-St. Paul.

## AA, PCA and Braniff Buy 702 Navy Surplus Engines

American Airlines, Pennsylvania-Central Airlines and Braniff Airways late last month purchased 702 Navy surplus Pratt & Whitney R-2800-34 engines to power new aircraft, among them the Martin 202. Formerly used in the Navy's Grumman F-7-F, the model R-2800 18-cylinder double-row Wasp is no longer being manufactured.

Total price of the engines, stated by War Assets Corp., was \$7,312,032, representing about 75% of original cost. Per unit price was \$10,416. American purchased 447 engines for \$4,655,952, PCA 209 for \$2,176,944, and Braniff 46 for \$479,136.

The R-2800 develops about 1600 hp at cruising with a maximum of 2000 hp at 2700 rpm at takeoff.

### Continental Re-Elects Officers

The board of directors of Continental Air Lines last month re-elected the following officers: Louis H. Mueller, chairman; Robert F. Six, president; C. C. West, Jr., vice president; O. R. Haueter, vice president-operations; Stanley R. Shatto, vice president-engineering and maintenance; Joseph A. Uhl, secretary-treasurer; and Dorothy V. Rylander, assistant secretary. West was also elected to the board of directors.

## United to Operate Catalina's Island Route, Starting in June

A lease agreement has been negotiated between United Air Lines and Catalina Air Transport providing for UAL operation of the latter's Los Angeles-Santa Catalina Island route starting in June. According to UAL announcement, the agreement, subject to CAB approval, provides for lease of the route with the certificate continuing to be held by Catalina. UAL plans to operate DC-3s over the 21-mile route.

## Homer S. Youngs Directs ATA's Shippers' Division

Homer S. Youngs, former chief of the chemical laboratory at Douglas Aircraft Co.'s Santa Monica plant, will direct the Air Transport Association's newly created shippers' research division in its study of regulations dealing with the safe transportation of hazardous commodities by air carriers.

Initial activities of the division will be to promote safety in flight, protect air shippers by helping to reduce the possibility of loss and damage, and give operators a clearing house for technical information.

## CMA Opens DC-4 Service; Pan Am Transfers Shares

Compania Mexicana de Aviacion, national Mexican affiliate of Pan American Airways, has begun service with 55-passenger DC-4 equipment. The larger aircraft are being used initially on schedules between Brownsville and Mexico City.

Meantime, a majority of the stock of CMA began to move into the hands of Mexican nationals, following action by the Pan American board approving sale of an additional 13,750 CMA shares.

The stock, when sold, will place more than 50% of the stock of the PAA subsidiary in the hands of Mexican citizens. This is the second step taken by PAA to distribute more stock to Mexican nationals.

While the Pan American announcement said the new move results in "final transfer of control" of CMA to Mexican citizens, it is being assumed that PAA has no intention of relinquishing direction and management of the company.

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# Airline Personnel

## Traffic

Ross Byers, recently returned to Braniff Airways from the military service, has been named administrative assistant to Charles E. Beard, vice president-traffic.

Thomas W. Marshall, Jr., has been named district traffic manager for Northwest Airlines at Spokane, Wash., following his return from service. R. D. Beaulieu will remain in Spokane as assistant dtm.



Renwick

Doran

Marshall

Bryan Renwick has been named traffic and sales manager for United Air Lines at Honolulu. He will be succeeded at Vancouver by Clyde Doran, formerly of United's Seattle traffic office.

Donald R. Sanborn has joined TWA as traffic representative for international travel in Chicago.

William F. Hughes becomes district sales manager for PCA at Grand Rapids, Mich., following his return from service.

## Operations

William F. Johnson of American Telephone & Telegraph Co. has joined United Air Lines as assistant superintendent of communications in charge of telecommunications development.



W. F. Johnson

McDaniel

Lewis

J. D. Lewis, superintendent of military operations for American Airlines, has been designated manager of operations at New York for the company's domestic division.

D. L. McDaniel has been named assistant to J. A. Herlihy, vice president-operations of United Air Lines. He will be stationed in Chicago.

Nelson Danziger has returned to the operations research department of American Airlines after service in the ATC.

## Miscellaneous

R. L. McBrien, former assistant superintendent of engineering for United Air Lines at Cheyenne, is now United's resident representative at the Glenn L. Martin Co. in Baltimore, working with engineers on projects involving the airline's purchase of 35 Martin 303s.

Robert F. Webb has been named director of public relations for Northeast Airlines, succeeding Fred M. Knight, who has accepted a position in Cleveland.

Ray Braud has been named field supervisor of Eastern Air Lines' southwest region, with headquarters at New Orleans.

Ronald S. Gall has been appointed publicity director for National Airlines.

Charles DeWitt has been named manager of employment by PCA. He was formerly personnel analyst.

Robert J. Wilson has been named supervisor of ground transportation of Northwest Airlines, with headquarters in St. Paul.

Joe W. Clement, Jr., has been named assistant to Thomas M. Miller, director of economic research of Chicago & Southern Air Lines.



Wilson

Clement

Kidera

Dr. George Kidera has returned to United Air Lines from military service to become regional medical director at Chicago.

Robert W. Fleming has joined the Washington, D. C., public relations staff of Pan American Airways.

Oliver J. Lissitzyn has joined the economic planning and research department of American Airlines. He is author of "International Air Transport and National Policy," and did considerable work for government during the war.

## Cargo

Walter H. Johnson, Jr., has been appointed eastern regional cargo traffic manager for American Airlines with headquarters in New York, replacing Robert K. Warner who has been named general air freight agent.

Ira P. Jones, Jr., has been appointed to the newly created position of southern division cargo manager of Braniff Airways with headquarters in San Antonio.



Scott

Smith

**Promoted**—George F. Scott, superintendent of passenger service, has become general traffic manager of Northeast Airlines, and Warren H. Smith, traffic manager, has been named general sales manager in a reorganization of the company's traffic and sales departments. The new appointments follow the resignation of William B. Briggs, who served as vice president-traffic.

Stratford W. Rice, a veteran of more than 10 years with Eastern Air Lines, becomes northern division cargo representative with headquarters at the Airlines Terminal Bldg., New York City.

G. Laurence Knight, Jr., recently released from the Air Transport Command, has rejoined Eastern Air Lines as New York City air cargo manager.



Rice

Knight

Jones

James H. Ballard, Lloyd M. Wakelee, Martha Smith and J. F. O'Neill have been named cargo sales representatives for TWA in the central region.

## Legion of Merit to Sheahan

Col. M. E. Sheahan, former deputy to Brig. Gen. Thomas B. Wilson, commanding general of transportation in the CBI theater, has been awarded the Legion of Merit in recognition of his successful efforts toward the establishment and maintenance of supply lines into China. Col. Sheahan, on inactive status, is serving as director of budgets and methods in TWA's international division.



Klein

Munroe

Seabee

Lafferty

McGarry

Britt

Stout

Wharton

Sharp

Rush

## District Managers

Pennsylvania-Central Airlines has created the title of district general manager in 15 cities, appointing the men whose photos appear here to direct all PCA activities in the districts to which assigned. The new general managers and their districts are: Fred C. Klein, Detroit; Dave Munroe, Norfolk; Trow Seabee, New York; Merrell F. Lafferty, Grand Rapids; William E. McGarry, Buffalo; C. M. Britt, Milwaukee; Joseph W. Stout, Jr., Birmingham; George B. Wharton, Baltimore; James R. Sharp, Akron; George Rush, Greensboro-High Point; Tom L. Perry, Knoxville; J. H. Tischler, Muskegon; Thomas T. Hinman, Chicago; William D. Ord, Rochester; and Arthur F. Graham, Cleveland.



Perry

Tischler

Hinman

Ord

Graham



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## ATA Gives Support to Airport Taxi Proposal, Vetos Subsidiary Plan

The Air Transport Association has endorsed the use of one-company ground transportation service at principal airports, but decided against the formation of a subsidiary which would handle a nation-wide airport taxi service for all airlines.

ATA's endorsement followed a special membership meeting in Washington Feb. 28, when United Air Lines recommended on the basis of a study at Chicago that one-company ground transportation be arranged for by a committee representing the airlines serving the area.

Other decisions made at the ATA meeting included:

Establishment of a permanent international committee whose membership will include representatives of each of the U. S. flag lines and those companies which have applied to the CAB for international routes.

A request that CAB speed its decision on non-scheduled flying in order that controversies between these operators and the airlines may be settled by adequate rules and regulations.

The association will cooperate with governmental agencies in studies to determine whether the airlines shall pay a portion of the cost of maintaining and developing ground facilities relating to air navigational aids. A formula looking toward adequate cost assessments on a use basis will be sought.

ATA decided not to establish a labor relations committee, hence the airlines negotiating committee will continue to function for the 13 airlines incumbent pilot wage negotiation.

ATA also approved a plan for consolidating the work of the state relations committee and the special committee on governmental regulation into a new government affairs committee to be headed by E. Smythe Gambrell, EAL attorney.

### Colonial Gets Newark as Co-Terminal

Colonial Airlines received permission to serve Newark, N. J., as a co-terminal with New York on Route 72 by a decision of the Civil Aeronautics Board last fortnight. Route 72 is the domestic portion of Colonial's New York-Ottawa/Montreal service.

## Transport Notes

**Radio Training**—TACA Airways is training 46 Central American students in a 20-week radio operations course at San Jose, Costa Rica. The students will be employed by the company.

**Flowers to Market**—Approximately a third of the North Carolina flower crop is being transported to market by air-freight, thus eliminating spoilage on long hauls.

**Mileage Gains**—Air Express Division of Railway Express estimates that its combined transport facilities now cover 300,000 miles in this country, including 67,000 miles of air routes.

**Passengers Up**—Pan American Airways Latin American Division carried 348,330 passengers during 1945, compared with 302,555 in 1944.

**Poults by Air**—United Air Lines has contracted with a number of hatcheries for shipment of turkey poults by air. Shipments reduce transit time from hatchery to grower, cut losses.

**Vegetables by Air**—Pan American Airways reports a 50% increase in produce shipped to Alaska under new commodity rates, which cut the former rate in half.

**Traffic Increases**—Northbound Pan American Airways passenger traffic between Seattle and Alaska during January was up 256% over the previous year, and southbound traffic 106%.

**Increases Schedules**—United Air Lines increased its transpacific flights for ATC to three flights a day each way, effective Mar. 1, between San Francisco and Honolulu.

**New Ticket Office**—Western Air Lines new Los Angeles ticket office features many postwar architectural innovations, including a unique glass exterior.

**New Timetable**—American Airlines System has issued a timetable covering its trans-Atlantic services, together with data on passport requirements, currency, duty regulations, etc.

**Rates Reduced**—Air Express Division of Railway Express announced rate reductions amounting to more than 30% on all seafood shipments flying from New York and Newark.

**Opens Ticket Office**—American Airlines has opened a ticket office at 120 Broadway, New York.

## Chicago & Southern to Move Executive Office

Chicago & Southern Air Lines will move its executive offices from Memphis to Chicago this fall, and at the same time will expand its overhaul and maintenance base at Memphis.

C&S plans call for an expenditure of at least \$4,000,000 immediately, and \$1,000,000 additional during the year at Memphis. Employees at Memphis are expected to increase from 700 to 1000 during the year.

As a part of the expansion program, the building housing the line's general offices at Memphis Airport will be increased in size by one-third, and new hangars will be built for new DC-4 equipment, which goes into operation May 1.

A new \$135,000 machine shop will be constructed by the city and leased to the company, and size of the present employee's cafeteria will be doubled, along with a comparable increase in the size of the kitchen facilities.

## Sharp Contest Arises Over Proposed NEA-PCA Merger

Prospects of a sharp contest over the proposed merger of Northeast Airlines with Pennsylvania Central Airlines developed at a prehearing conference last fortnight as counsel for Transcontinental & Western Air and several other carriers indicated they would probably oppose the merger. Major opposition came from TWA Attorney Norman Bowersox, who said his company objected to the merger both for its effect on TWA and on the industry in general.

Robert J. Wilson, PCA vice president and counsel, stated that both PCA and Northeast felt the merger was definitely in the public interest and should therefore be approved. The company's only witness, he said, would be C. Bedell Monroe, PCA president. Henry Foley, Northeast's attorney, said the company would support PCA and the merger completely.

John W. Cross, representing National Airlines, said the merger would make possible a Boston-Birmingham service, which, he felt, would have a direct bearing on the Boston-New York-Atlanta-New Orleans case soon to be heard. Cross said National would ask to intervene.

## Colonial Offers Interchange At Middle Atlantic Hearing

Colonial Airlines offered to establish equipment interchange with other carriers for one-plane service through to other points if it is certificated between New York and Cincinnati. The proposal was made at the CAB's Middle Atlantic hearing just concluded in Philadelphia.

PCA, seeking to extend its routes in the Middle Atlantic states, said transcontinental carriers were neglecting local service. Other carriers heard included TWA, United, Eastern and Northeast.

### Foley Assists Drinkwater

American Airlines System has announced the appointment of E. J. Foley as assistant to T. C. Drinkwater, vice president, in Washington, D. C. Foley, who holds an aeronautical engineering degree from the University of Detroit, joined the company in 1943 as assistant to the vice president-engineering.

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Joseph Garside is President of E. W. Wiggins Airways, Inc., which operates Metropolitan Airport, Norwood; Logan International Airport, Boston; and Barnes Airport, Westfield; all in Massachusetts. When he was only 14, Mr. Garside first soloed—and he has been flying planes and operating airports ever since. Today he is Regional President of the National Aviation Trades Association. Here is what he says about the company which supplies his airports with petroleum products...

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“You can’t bluff your way through in the aviation business, and Esso has never tried. The men in Esso’s Aviation Department are aviation men from way back. They know flying and the needs of the flyers and the aircraft service operators. They know the service and the products they’ve got to furnish to keep airplane pilots coming back for more, and they’ve given us those things in good times and bad. Furthermore, Esso has been exceptionally prompt and liberal in furnishing advertising aids and such items as lubrication charts, computers and windsocks.

“These Esso men have their hearts in it, too, as well as their money. Wherever you find aviation needing a boost, you’ll find an Esso man giving it the best he has, regardless of time or temperature.

“We appreciate those things, and so do the people who fly with us. We know that those men are going to make it their personal responsibility to see that we continue to get high quality fuel and lubricants under the Esso name.”



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# Parks Air Transport Favored For Midwest Feeder Routes

## North Central Report Recommends 4 Airlines

**F**OUR AIRLINES were recommended for additional routes and cities and Parks Air Transport, Inc., was recommended for two feeder routes by CAB Examiner F. Merritt Ruhlen in a 200-page report of the North Central case. Among the scheduled airlines, Mid-Continent Airlines was recommended for numerous local stops in the midwest.

The recommendations were:

**PCA:** An extension from Milwaukee to Minneapolis-St. Paul on Route 32 for permanent authorization with suggested restriction against serving the Twin Cities except on flights originating or terminating east of Detroit.

**Inland Air Lines:** Extension from present eastern terminus at Huron, S. D., to the Twin Cities under permanent certificate and local stops on Route 3 at Brookings, Mankato and Rochester under three-year authorization. Also certification of Chadron and Alliance, Neb., as intermediate stops on Route 35.

**Northwest Airlines:** Bozeman, Mont., as intermediate stop on Route 3 for three-year period.

**Mid-Continent:** Addition of Mitchell, Yankton, Norfolk and Freemont as intermediate stops on Route 26. Also a new route between Duluth and Chicago with 17 intermediate stops subject to restrictions designed to prevent long-haul service. Also new route

between Duluth and Twin Cities with four intermediate stops, two of which must be served on each flight. Also new route between Chicago and Milwaukee as co-terminals and Twin Cities; from Chicago-Milwaukee to Sioux City; and between Twin Cities and Des Moines, all via numerous intermediate points, and all with restrictions prohibiting long-haul service.

**Parks Air Transport, Inc.:** Only new company recommended for a certificate. One route connecting Chicago and Twin Cities via Elgin, Rockford, Beloit, Janesville, Madison, Baraboo, LaCrosse, Winona and Rochester, with provision that at least three stops be served on each flight. Second route, Chicago to Des Moines via Aurora, Peoria, Kewanee, Tri-Cities, Galesburg, Monmouth, Ottumwa and other intermediate stops with provision for four stops a trip.

The examiner pointed out that local service routes laid out in a linear pattern between two strong terminals seemed to hold greater promise of economic success.

The examiner recommended against a number of applications for various types of local service, including pick-up devices and combination passenger-pickup and perhaps indicated a trend of thinking within the CAB when he concluded that "except in unusual circumstances, it would seem that the public would receive more benefit from a conventional passenger operation than from a pick-up service."

## PAA's Ambitions For Overseas Area Rights Receive Sharp Setback

Pan American Airways' ambition to serve France—including Paris—and a number of other European countries on an area basis rather than through individual points received a sharp setback from Civil Aeronautics Board Examiner Ross I. Newmann last fortnight. In a report on the Pan American North Atlantic amendment case (Docket 2076), Newmann declared that no development since the original North Atlantic decision last summer warranted any change in PAA's certificates except authorization of Frankfurt a/M, Germany, on Pan American's Brussels-Prague route, and certain other changes.

The examiner rejected PAA's requests for removal of the restrictions which limit its service to France, Eire, Portugal and the United Kingdom to a single point in each, and recommended against authorizing the carrier to serve Italy, Greece, and Spain on an area basis.

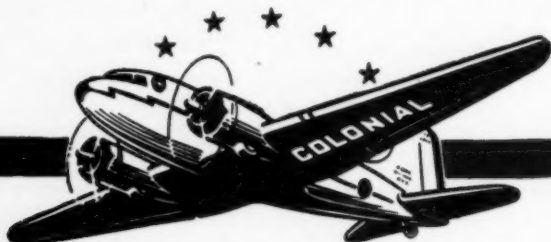
He recalled the number of bilateral and interim agreements already reached between the U. S. and various European countries since the North Atlantic decision as indications that operating difficulties were being steadily ironed out. In addition, Newmann said, certificate adjustments should not be made until the countries of Europe reestablish a measure of their pre-war economic and social stability, and until a trial of the services presently authorized could be made under more nearly normal conditions.

## AA Non-Stop Urged Despite TWA Protest

Warning that the denial of new non-stop applications because of their diversionary effect upon other carriers would "impede the further development of air transportation," Civil Aeronautics Board Examiner James S. Keith last fortnight issued a report recommending that 10 long distance non-stops applied for by American Airlines be granted despite the strong protests of Transcontinental & Western Air.

Keith's report stated that the 10 proposals would enable AA to offer a variety of expedited services between the midwest and the west coast and between the east and west coasts; would make possible more economical utilization of four-engine aircraft in long haul service; and would achieve mileage savings ranging from 21 to 98 miles and time savings of 41 to 60 minutes.

TWA opposed the non-stops with the claim that they would divert 51% of its present midwest-Los Angeles traffic and 44% of its transcontinental business. The examiner concluded that although TWA would probably suffer diversion amounting to some \$500,000 annually, its recently approved New York-Los Angeles non-stop would prove an "attraction to transcontinental traffic sufficiently strong to



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offset the multiplicity of routings offered by American."

The non-stops recommended for approval include Oklahoma City-Los Angeles, Tulsa-Los Angeles, Tulsa-Phoenix and Tulsa-Tucson on Route 4; New York-Oklahoma City, New York-Tulsa, Washington-Oklahoma City and Washington-Tulsa on Route 23; and Chicago-Tulsa and Chicago-Oklahoma City on Route 30.

## Acquisition Deal Gets Sharp CAB Rejection; Companies Rebuked

In one of its most strongly worded opinions of recent months, the Civil Aeronautics Board last fortnight disapproved National Airlines' acquisition of Caribbean-Atlantic Airlines and administered a rebuke to the managements of both companies for the way in which the acquisition transaction was handled. The Board also disapproved an equipment lease agreement under which NAL planes and pilots were assigned to Caribbean-Atlantic's Puerto Rican operation.

The Board ordered National to cease and desist from violating the Civil Aeronautics Act through its actual acquisition of Caribbean-Atlantic without CAB approval, and ordered that 33,500 shares of Caribbean-Atlantic stock deposited with National be returned to their original owners within 60 days. It also required National to report by affidavit within that time that it had divested itself of all control, both direct and indirect, over Caribbean-Atlantic.

The main reason given for the rejection

of the acquisition proposal was that the two airlines, separated by a thousand miles of ocean, could not be successfully or economically integrated, nor would any savings in operating equipment utilization result.

The special deal worked out between G. T. Baker, NAL president, and Dennis Powelson, Caribbean-Atlantic's president and majority stockholder, whereby Powelson was to receive a greater consideration for his shares of CAA stock than would the minority stockholders of the company, also was criticized by the Board. "... the consideration to be paid to the minority stockholders appears inequitable," the opinion stated, adding that "Such inequities inevitably have an adverse effect upon the integrity of investments in airline securities and may be expected to impart a speculative character to such investments which would increase the cost of capital for the industry."

## Board Studies Mail Pay Rate Applying to 2 PAA Divisions

Civil Aeronautics Board examiners were holding hearings last fortnight on a complicated proceeding which will eventually result in the setting of a new mail pay rate for Pan American Airways' Latin American Division and for its Miami-Leopoldville, Belgian Congo, operations. Scheduled to follow immediately after the mail rate hearing, was a second and closely related proceeding in which CAB is investigating the terms of a contract between Pan American and Panair do Brasil.

## Economic Regulation Asked For Non-Scheduled Operators

When fixed-base operators seek to slip into regular air transport service through exemptions from provisions of the Civil Aeronautics Act granted to non-scheduled carriers, they should be "fed with the same spoon" as the airlines and come under federal economic regulation, E. Smythe Gambrell, Eastern Air Lines counsel, told the Civil Aeronautics Board during oral argument on Mar. 4. Appearing as intervener in the case involving the CAB's investigation of activities of Page Airways, Inc., Gambrell urged that both the airline industry and the public must be protected by governmental regulation of those "non-scheduled" operators who apparently seek to provide regular air service.

## PAA Certificate Continues Pending Board's Decision

Pan American Airways' temporary New Orleans-Guatemala City, Guatemala, certificate, which was scheduled to expire Mar. 12, will continue in effect until the Board issues its decision in the Latin American Case under the terms of a temporary exemption order issued to PAA by the Board last fortnight. The Board issued the exemption after PAA had petitioned it to take steps to insure that service on the route would not be interrupted.

Permanent certification of the New Orleans-Merida-Guatemala City Route is asked in one of PAA's applications in the Latin American Case, and this proposal has been favorably recommended by CAB examiners.

## Ryan Becomes Vice Chairman

The vacant CAB Vice Chairmanship was filled last fortnight by the designation of Member Oswald Ryan by President Harry S. Truman. Because he will complete the unexpired term vacated by the resignation of former Vice Chairman Edward P. Warner, Ryan's term as Vice Chairman will expire Dec. 31, 1946. One of the two remaining original CAB Members, Ryan has frequently served as acting chairman in the absence of Chairman L. Welch Pogue.

## TACA de Colombia Hearing

Hearing has been held on application by Lineas Aereas TACA de Colombia (Docket 1824) for scheduled service between Colombia and the U. S. Francisco Urrutia, a company director, was the chief witness. Testimony brought out that the Colombian company recently cancelled a provision in its by-laws whereby TACA Airways, S.A., a Panamanian holding company, was retained as technical adviser. Pan American Airways opposed the application. The Port of New York Authority issued a statement supporting the application on grounds that a Colombia-New York service was needed.

## No Objection to 25c Mail Rate

Representatives of Essair, Inc., stated at a brief hearing last fortnight that the company had no objection to the temporary mail rate of 25c per revenue plane mile suggested by the Civil Aeronautics Board in a statement of tentative findings and conclusions and an attached show cause order issued last month.

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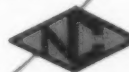
PCA — (Pennsylvania Central Airlines), which flies the great Capitaliner fleet over a vast skyway marking many of America's great cities, long ago adopted National radio receivers as part of its communications facilities. In Washington, PCA headquarters, and elsewhere on its system, National ground receivers are working around the clock, giving the kind of service PCA engineers demand in their insistence for the finest in communications equipment.

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# CAB Proceedings

(A Summary of Applications Filed, Orders Issued, and Future Actions of the Civil Aeronautics Board.)

## Orders:

- 4521—Approving an agreement between Pennsylvania-Central Airlines and Transcontinental & Western Air relating to maintenance service for PCA planes at Harrisburg, Pa. (Agreement C.A.B. No. 446).
- 4522—Approving an agreement between American Airlines and United Air Lines relating to the rental of storage space to United at Hartford, Conn. (Agreement C.A.B. No. 497).
- 4523—Approving an agreement between Eastern Air Lines and National Airlines relating to the sublease of a radio site in Hillsborough County, Fla. (Agreement C.A.B. No. 535).
- 4524—Approving an agreement between United Air Lines and Transcontinental & Western Air relating to drying and refilling TWA's oxygen bottles at La Guardia Field. (Agreement C.A.B. No. 533).
- 4525—Approving an agreement among American Overseas Airlines, Transcontinental & Western Air and other carriers and foreign air carriers relating to the establishment and conduct of regional traffic conferences of the International Air Transport Association (IATA). (Agreement C.A.B. No. 493).
- 4526—Approving interlocking relationships resulting from the holding by William Littlewood and T. C. Drinkwater of positions in American Airlines and American Overseas Airlines. (Docket 2126).
- 4527—Amending the certificate for Route 72 held by Colonial Airlines to designate Newark, N. J., as a co-terminal with New York. (Docket 2144).
- 4528—Approving an agreement between Pennsylvania-Central Airlines and other carriers relating to the establishment and operation of the United States Capitol Airlines Ticket Office. (Agreement C.A.B. No. 453).
- 4529—Permitting Wisconsin Airways, Inc., to intervene in the North Central Case (Docket 415 et al.) and denying the company's request for consolidating of its application in Docket 2176 with the North Central Case for immediate hearing.
- 4530—Consolidating Braniff Airways' application for consolidation of its Routes 9, 15 and 50 (Docket 1154) with Chicago and Southern's application for consolidation of its Routes 8 and 53 for hearing.
- 4531—Consolidating Transcontinental & Western Air's application for consolidation of its Route 44 with Routes 2, 37, 61 and 67 (Docket 2142); American Airlines' application for consolidation of its Routes 30 and 4 (Docket 2187); and United Air Lines' application for consolidation of its Routes 1 and 11 (Docket 2207), for hearing.
- 4532—Denying Eastern Air Lines request for consolidation of its application for consolidation of its Routes 10 and 40 (Docket 1971) with the Braniff-TWA Route Consolidation Case (Docket 1154 et al.).
- 4533—Rescinding an order of the Board of Apr. 18, 1942, temporarily suspending service over Pennsylvania-Central Airlines' Route 41.
- 4534—Rescinding a portion of a temporary suspension order dated from May 26, 1942, to permit United Air Lines to resume service to Iowa City, Iowa, on Route 1.
- 4535—Rescinding an order of the Board dated Dec. 13, 1945, which had allocated to Pan American Overseas Airlines the 14 weekly landing rights allowed to U. S. carriers in the United Kingdom under the interim agreement since superseded by the Bermuda Bilateral Air Transport Agreement.
- 4536—Authorizing Alaska Airlines to intervene in the certificate proceeding on the application of William V. Smith doing business as Circle Air Trails, in Docket 2034.
- 4537—Permitting Alaska Airlines to intervene in the certificate proceeding on the application of the Larson Alaskan Distributing Co. in Docket 2035.
- 4538—Amending the approved foreign service plan of American Overseas Airlines to permit the carrier to serve Frankfurt a/M, Germany, as an intermediate point on its Stockholm-Berlin Route. (Docket 2241).
- 4539—Authorizing Eastern Air Lines to intervene in the Board's investigation of the air transport activities of Page Airways, Inc. (Docket 1896).
- 4540—Disapproving the acquisition of control of Caribbean-Atlantic Airlines by National Airlines; ordering the restoration of Caribbean-Atlantic to its former status and the return to the stockholders of Caribbean-Atlantic of the shares deposited by them with National; and disapproving an equipment leasing agreement between National and Caribbean-Atlantic. (Docket 1907 et al.).
- 4541—Amending the Approved Service Plan—Foreign Air Transportation authorized for American Overseas Airlines to substitute Oslo for Stav-

anger as the point in Norway to be served by the carrier. (Docket 2212).

- 4542—Denying a petition of the Chamber of Commerce of Rockford, Ill., for permission to intervene in the Great Lakes Area Case. (Docket 535 et al.).
- 4543—Consolidating the applications of American Airlines, Docket 2230, and Pennsylvania-Central Airlines, Docket 1731, into the Boston-New York-Atlanta-New Orleans case (Docket 730 et al.); denying permission to intervene in that proceeding to the Baltimore Association of Commerce and the Chamber of Commerce and Board of Trade of Philadelphia; and permitting interventions by the following parties: the Commonwealth of Massachusetts, Baltimore Aviation Commission, Greensboro-High Point Airport Authority, Orleans Airport Commission of New Orleans, Port of New York Authority, Department of Justice, Transcontinental & Western Air, Braniff Airways, and the Cities of Asheville, N. C., Cincinnati, Ohio, Hattiesburg, Miss., and Philadelphia, Pa.
- 4544—Denying the Chamber of Commerce and Board of Trade of Philadelphia permission to intervene in the Boston-New York-Atlanta-New Orleans case. (Docket 730 et al.).
- 4545—Denying the Chamber of Commerce and Board of Trade of Philadelphia permission to intervene in the Pan American Airways U. S. Domestic Routes case. (Docket 1803).
- 4547—Approving an agreement between Pan American Airways, American Export Airlines (now American Overseas Airlines), Transcontinental & Western Air, and Douglas Aircraft Co. relating to the conversion of C-54 aircraft. (Agreement C. A. B. No. 508).
- 4548—Authorizing Mid-Continent Airlines to inaugurate service to Mason City, Iowa, on Route 48, through the use of Mason City Municipal Airport beginning Mar. 15.
- 4549—Authorizing Delta Air Lines to operate non-stop between Chicago and Atlanta on Route 54.
- 4550—Permitting Southwest Airways Co. to intervene in the Arizona Airways-TWA Route 38 Purchase case. (Docket 2005).

## Calendar

- Mar. 15—Hearing on the application of TACA, S. A. (El Salvador) for a foreign air carrier permit for a route between San Jose, Costa Rica, and Miami. (Docket 774). Examiner Barron Fredricks.
- Mar. 18—Hearing on the application of TWA and Arizona Airways for approval of the sale of TWA's Route 38 to Arizona Airways. (Docket 2005) 10 a. m., Conference Room "C", Dept. Aud., Examiner J. Earl Cox.
- Mar. 20—Hearing in the Board's investigation of the Universal Air Travel Plan. (Docket 1939) Examiner Charles J. Frederick. Tentative.
- Mar. 20—Prehearing conference on applications proposing airline service in the Chicago-Pacific Coast area. (Docket 1303 et al.) 10 a. m., Conference Room "C", Departmental Auditorium.
- Mar. 25—Prehearing conference on applications proposing air freight service. (Docket 810 et al.) 10 a. m., Conference Room "C", Departmental Auditorium.
- Mar. 25—Tentative hearing date for the TWA-AAL-UAL consolidated-route consolidation case. (Docket 2142 et al.).
- Mar. 27—Prehearing conference on applications involving proposals for air freight forwarding services. (Docket 681 et al.) 10 a. m., Conference Room "C", Departmental Auditorium. Examiner William F. Cusick.
- April 1—Briefs due in the Mississippi Valley case. (Docket 548 et al.) Postponed from Mar. 15.
- April 2—Prehearing conference on Northwest Airlines' application for consolidation of its Routes 3 and 69. (Docket 2018). 10 a. m., Room 5132, Commerce Bldg.
- April 15—Exhibits due on Pan American Airways' U. S. domestic routes case. (Docket 1803)
- May 6—Hearing in the Boston-New York-Atlanta-New Orleans case. (Docket 730 et al.) Examiners Ralph L. Wiser and Lawrence J. Koster. Tentative.
- May 15—Rebuttal exhibits due in Pan American Airways' U. S. Domestic Routes Case. (Docket 1803).
- May 20—Date for exchange of exhibits in the Boston-New York-Atlanta-New Orleans case (Docket 730 et al.).
- May 29—Rebuttal exhibits due in the Boston-New York-Atlanta-New Orleans case. (Docket 730 et al.).
- June 3—Hearing on Pan American Airways' application for U. S. domestic routes. (Docket 1803)
- June 10—Hearing in the Boston-New York-Atlanta-New Orleans case. (Docket 730 et al.) Examiners Ralph L. Wiser and Lawrence J. Koster.

## Applications:

- Arizona Airways, Inc., 34 E. Adams St., Phoenix, Ariz., for a permanent or temporary certificate authorizing scheduled mail, passenger and property service over 2887 miles of routes between Phoenix, Ariz., and Yuma, Ariz.; Phoenix (circle route); Grand Canyon, Ariz.; San Diego, Calif.; Guaymas, Mexico; El Paso, Texas; Salt Lake City, Utah; and between Tucson and Albuquerque. (Docket 2223).
- Central Airlines, Inc., 309 First National Bank Bldg., 15 E. St., Reno, Nev., for a permanent, temporary or experimental certificate authorizing non-scheduled passenger and property service between all points in the U. S. (Docket 2229).
- Federal Airlines Co., 518 Felt Bldg., Salt Lake City, Utah, for permanent or temporary certificates covering scheduled mail, passenger and express service over 1552 miles of routes linking Albuquerque and El Paso; El Paso and Douglas, Ariz.; Douglas and Nogales, Ariz.; Nogales and Phoenix, Ariz.; Phoenix and San Diego; Phoenix and Las Vegas, Nev.; and El Centro and Los Angeles, Calif., all via intermediate points some of which are to be served on a flag stop basis. (Docket 2222).
- Texas-New Mexico Airlines, Inc., Amarillo, Tex., for a permanent or temporary certificate authorizing scheduled mail, passenger and property service between El Paso and Los Angeles via Deming and Lordsburg, N. M., Douglas, Bisbee, Nogales, Tucson, Globe, Phoenix and Prescott, Ariz., Needles, Palm Springs, San Bernardino and Pasadena, Calif.; and between Albuquerque and Los Angeles via Gallup, N. M., Holbrook, Winslow, Globe, Phoenix and Yuma, Ariz., El Centro, Palm Springs, Riverside, Santa Ana and Long Beach, Calif. (Docket 2213).
- Western Air Lines for a permanent certificate authorizing scheduled mail, passenger and property service between El Centro, Calif., and Dallas, Tex., via Yuma, Phoenix, Tucson, Nogales and Douglas-Bisbee, Ariz., and El Paso, Pecos, San Angelo, Brownwood and Fort Worth, Tex. (Docket 2224).
- Western Air Lines, for a permanent certificate authorizing scheduled mail, passenger and property service between Salt Lake City and Dallas via Provo and Price, Utah, Grand Junction, Montrose and Durango, Colo., Albuquerque and Clovis, Portales, N. M., and Lubbock, Big Spring, Abilene, Mineral Wells and Fort Worth, Tex. (Docket 2225).
- Western Air Lines, for a permanent certificate authorizing scheduled mail-passenger and property service between Reno, Nev., and El Paso, Texas, via Carson City, Tonopah, Las Vegas and Boulder City, Nev., Kingman, Prescott, Phoenix, Globe-Miami, and Safford-Clifton-Morenci, Ariz., and Silver City and Las Cruces, N. M. (Docket 2226).
- Western Air Lines, for a permanent certificate authorizing scheduled mail, passenger and property service between Albuquerque, N. M., and El Paso, Texas, via Socorro-Magdalena, Hot Springs and Las Cruces, N. M. (Docket 2227).
- Wien Alaska Airlines, Box 649, Fairbanks, Alaska, for approval of the acquisition of control of Ferguson Airways. (Docket 2228).
- Wien Alaska Airlines, Box 649, Fairbanks, Alaska, for a permanent, temporary, limited or restricted certificate to authorize scheduled mail, passenger and express service between Fairbanks and Anchorage. (Docket 2198).
- Wien Alaska Airlines, Box 649, Fairbanks, Alaska, for a permanent, temporary, limited or restricted certificate to authorize scheduled mail, passenger and property service between Nome and Anchorage via Moses Point, Unalakleet and McGrath, Alaska. (Docket 2199).

## Frankfurt Added to AOA's Service

Frankfurt a/M Main, headquarters of the U. S. Army of Occupation for Germany, was added to the approved foreign service pattern of American Overseas Airlines by an order of the Civil Aeronautics Board last fortnight. AOA flights between Amsterdam and Berlin will stop at Frankfurt, the transport center of the Upper Rhineland industrial area. The Board's order stated that Frankfurt lay within the area north of the 50th parallel which the North Atlantic Decision assigned to AOA, and that service there was not inconsistent with the public interest.

# Operations and Maintenance Review

Including

COMMUNICATIONS—NEW EQUIPMENT—AIRPORTS

## AA Considers Service Test of Search Radar

### Prevention of Collision and Navigation Are Stressed

IN A PRELIMINARY report on an investigation of the commercial airline applications of airborne search radar, which was started shortly after VJ-Day, the American Airlines ANTC group stated last week that it may soon recommend the service testing of a suitable type of search radar on scheduled airline aircraft.

The preliminary report covered only the first phase of American's investigations—the use of search radar to prevent collision with ground objects and for navigational purposes. Other phases which will be covered in succeeding reports include: use for navigation in combination with ground beacons; use to prevent collisions with other aircraft; and use to detect and avoid thunderstorms and severe turbulence.

While stating that they may recommend service testing in the near future, the American engineers warn, however, that tests now in progress with an APS-10 radar—one of the latest and most highly developed available types—installed in a DC-3 type aircraft indicate that search radar in its present form is far from being foolproof, and is certainly not the cure-all that has been popularly supposed. They point out that radar does not see things in the light and dark values familiar to the human eye, but as good and bad reflectors; and that it is far sighted and fails to define properly those nearer things of greatest importance.

#### Usefulness Reduced

In their tests, the AA engineers say, it has been found that the dark areas of no signal return caused by the non-reflecting characteristics of water areas or by the shadows that appear where the radar cannot see the far sides of hills or mountains are more useful than the bright echo areas because of their characteristic shapes; but the usefulness of these indications, too, is reduced greatly because water areas cannot be distinguished from terrain shadows, and the configuration of a water area is subject to increasing distortion as the range decreases, while the characteristic shapes of terrain shadows change rapidly with changes in either range or altitude.

The most positive indication yet observed by the AA project group, as far as collision prevention is concerned, is a shadow area or cone of silence extending out from the center of the scope and representing the area under the horizontally sweeping pencil beam (AA has removed the cosecant squared reflector) of the radar antenna. This area provides positive assurance that the aircraft is above the terrain and that there is no solid object closer to the aircraft laterally than the outer edge of the dark cone of silence area on the scope.

Even this cone of silence indication has its limitations, however. One of these is that as altitude is decreased, the effective protection of the cone of silence is

destroyed since the "splatter" area outside the pencil beam begins to pick up ground echoes and fill in the cone of silence. The altitude necessary to maintain an effective cone of silence further varies with the nature of the reflecting surfaces making up the terrain, and early AA tests indicated that the minimum useful altitude for the equipment was 2,000 ft. over open country, 3,000 ft. over Brooklyn, and 4,000 ft. over Manhattan. However, recent minor changes to the equipment have produced unexpectedly good results. On a test flight on Mar. 5, on which a representative of AMERICAN AVIATION was present, a satisfactory cone of silence sufficient to permit engineering pilot Sam Saint to fly blind under the hood and avoid hills and mountains was maintained at ground clearances over the average terrain of as little as 700-800 ft. This included both flights over the Hudson River around Bear Mountain and over land flights in the same area with the pilot completely unorientated as to when to expect hills or mountains. At no time was the safety pilot forced to take over.

#### Improvements Seen

It is believed that still further improvements to the usefulness of this indication at lower altitudes can be made through certain modifications to the radar—particularly the introduction of an automatic volume control which will decrease the volume with decreasing range.

A second limitation found in the cone of silence indication is the fact that with present antenna, the pilot loses the scope picture when he banks the aircraft. This is particularly serious when the pilot is making a climbing turn to avoid an obstruction shown by the radar. AA and Airborne Instrument Laboratory technicians hope to overcome this by providing a means for stabilizing the antenna, either mechanically or automatically.

The relationship between the cone of silence and the shadow areas provides a significant discrimination between water areas and terrain shadows, according to AA engineers. Flying toward water, the cone of silence pushes its way forward without distortion until it merges with the water shadow. When flying toward a terrain shadow, however, a constantly brightening line of illumination remains between the shadow and the cone of silence, finally pushing its way into the cone of silence toward the center of the scope. Earlier flights indicated that if the ridge or peak being crossed is 2,000-3,000 ft. below the aircraft, the bright echo will disappear at a safe distance as the peak drops below the beam of the antenna. The Mar. 5 flight which AA is careful to point out must be further corroborated, indicated that altitude discrimination may be improved to less than 1,000 ft.

While the AA investigations reflect optimism toward the use of search radar for avoiding terrain obstacles such as hills and mountains, they have indicated that in its present form it has little or no

value for avoidance of radio towers, tall buildings and similar obstructions since they are too narrow to cast shadows, and the surface illumination is not readily distinguishable from ground clutter.

A similar negative result has been indicated as to the use of a pure search radar for navigational purposes, since the AA engineer feels that reliance on indications that vary extremely with altitude would sometimes be misleading.

They further point out that the brilliance of the scope picture, in this as in other radars, is far from satisfactory in bright daylight, and that a long cumbersome hood placed at an angle to avoid direct reflections from the face of the scope is required. Engineering pilot Saint is of the opinion that use of the equipment should not be ruled out on this cause alone.

Four tentative conclusions are presented by the American engineers on the basis of flight tests to date. These are:

- 1) Although the APS-10 radar, used as a terrain clearance indicator, does present some difficulties and limitations, suggested modifications, as yet untried, justify further concentrated investigation of its potentialities.
- 2) Outside information, including that supplied by ATC at Morrison Field, suggests that equipment of this type may have its greatest and most immediate value in the detection and avoidance of thunderstorms.
- 3) On the basis of very limited flight tests, it appears that the most important use of an airborne search radar ultimately may be found when it is used in conjunction with ground beacons to provide a more reliable and more flexible navigation system.
- 4) Service testing on regular airline schedules may be proposed in the near future.

American Airlines stresses that the above conclusions are purely tentative based on its experiments from VJ-Day to date. It intends to continue its investigation not only of radar for collision indication, but also of search radar beaconry, thunderstorm detection, and air-air collision warning; and has recently invited both ATA and CAA to participate in the project.

### CAA Stalls on ARINC Case

When the FCC resumed the hearing Feb. 25 on the application of Aeronautical Radio, Inc., for radio frequencies with which to handle company operational communications, a Civil Aeronautics Administration attorney appeared and refused to submit the evidence and arguments which CAA had earlier promised—thus delaying the whole matter and holding up a decision. Meantime a sharply worded opinion by FCC denied a CAA motion to dismiss the ARINC applications, stating that not only were the applications in proper order but that the FCC has been unable to find that the general powers of the CAA over air navigation facilities were intended to confer upon that agency the exclusive right to furnish the limited communications service proposed by ARINC. (See editorial)

# Convair Releases Data on Pressurized Model 240

## Twin Engines Incorporate New Jet Thrust System

A PRESSURIZED version of the Consolidated Vultee Model 240 transport, powered by two Pratt & Whitney R-2800-CE17 engines, and incorporating both water injection and a Convair developed system for augmented exhaust jet thrust, will have a guaranteed average cruising air speed at 16,000 ft. and 1,200 bhp per engine of 302 mph, according to the general model specification just released by the Convair engineering department.

Guaranteed range at this speed with 710 gal. of fuel, a 200 mi. plus  $\frac{3}{4}$  hr. fuel reserve, and a 10 mph headwind is 715 mi.

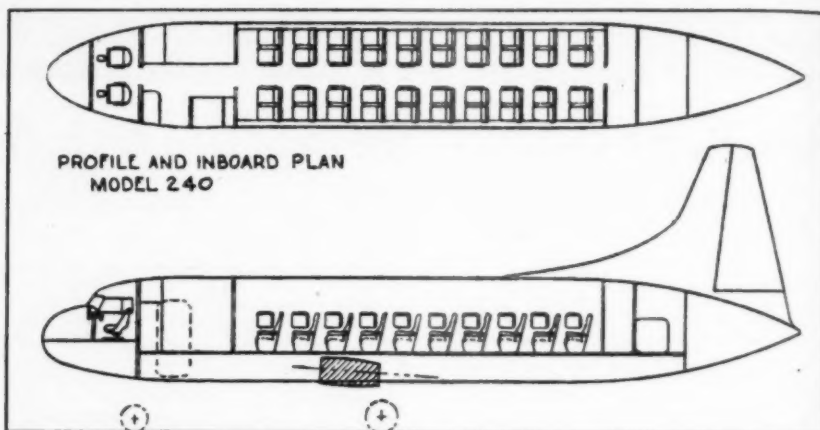
Other performance standards which the 240 will be guaranteed to meet include: a maximum CAR one-engine inoperative operational ceiling (.02V+2 rate of climb) of 14,600 ft. at full 36,600 lb. gross weight and maximum continuous power; a required CAR sea level take-off runway length of 3,400 ft. at 36,600 lbs. with each engine developing 2,300 bhp; a required CAR sea level landing runway length of 3,450 ft. at 33,400 lbs. landing weight with both propellers reversed; a power-off sea level stalling speed of 84 mph at 36,600 lbs. with full flaps; and a maximum altitude to meet CAR take-off climb (.035V+2) of 4,300 ft. at 36,600 lbs.

Guaranteed take-off performance is calculated on the dry ratings of the engines. With water injection, the required CAR runway length for take-off is estimated at 3320 ft., and the maximum altitude to meet CAR take-off climb at better than 9,000 ft. The addition of water increases the power of each engine from 2,300 to 2,400 bhp.

In addition to its guaranteed performance, the 240 at a gross weight of 36,600 lbs., with 710 gals. of fuel and an 8,500 lb. payload made up of 40 passengers plus baggage and 500 lbs. of cargo is estimated to have a top speed at 14,000 ft. (1,700 bhp/eng., high blower) of 342 mph, and an average cruising air speed at 16,000 ft. (1,400 bhp/eng., high blower) of 323 mph.

Payload for a cruising altitude of 10,000 ft. (low blower) at an average cruising airspeed of 286 mph varies from 10,000 lbs. for 360 mi. trip length to 6,650 lbs. for 1,140 mi. trip length with 1,000 gal. maximum fuel capacity. For a cruising altitude of 16,000 ft. (higher blower) at an average cruising airspeed of 302 mph, payload varies from 10,000 lbs. for 340 mi. to 6,650 lbs. for 1,160 mi.

Basically a development of the previously announced Convair 110 (AMERICAN AVIATION, Sept. 15, 1945) the 240 is a twin-engined, all-metal low-wing monoplane with full cantilever wing and tail surfaces. The fuselage will have a circular cross section with a maximum height and width of 113 in. (4 in. less than the 110) and will be constructed of a smooth metal skin reinforced with longitudinal stringers, transverse bulkheads and belt frames. The aircraft will be designed and equipped for pressurization with a maximum differential of 3 psi between cabin pressure, although there is a possibility that an unpressurized version is also planned



Overall length of the 240 is 73 ft. 4 in. as compared to 71 ft. 1 in. for the 110; overall height 26 ft. 5.7 in. as compared to 26 ft. 7.3 in.; span 91 ft. 9 in. as against 91 ft.; wing area (including ailerons) 817 sq. ft. and 813 sq. ft.; mean aerodynamic chord 9 ft. 6 in. and 9 ft. 9 in.; gross take-off weight 36,600 lbs. and 32,300 lbs.; gross landing weight 34,855 lbs. and 32,300 lbs.; weight empty 22,805 lbs. and 20,620 lbs.; wing loading 44.8 lbs./sq. ft. and 39.8 lbs./sq. ft.; power loading (take-off) 7.6 lbs./bhp. and 7.7 lbs./bhp.; design level flight speed 290 mph and 280 mph; main gear tread 25 ft. and 24 ft. 10 in.; propeller diameter 13 ft. 1 in. and 12 ft. 2 in.; propeller ground clearance 12 in.; and propeller fuselage clearance 17 in. and 17.5 in.

Other basic differences between the 240 and the 110 include the use of three-bladed rather than four-bladed full feathering and reversible Hamilton Standard propellers; 17-in. rectangular instead of 16-in. oval windows; a straight rather than a gull wing; and location of the main passenger entrance in the left side of the fuselage forward of the propeller line rather than in the tail.

The 240 will be equipped with hydraulically operated retractable tricycle landing gear with dual wheels throughout. High pressure type 34x9.9 in. tires are specified for the main gear, and 26x6 in. tires for the nose gear.

Center of gravity limitations on the 240 will be 19% MAC forward and 32% MAC aft as against 20 and 33% respectively for the 110.

### AA's 240 to be Pressurized

The Consolidated-Vultee Model 240 twin-engine transport ordered by American Airlines will be equipped with pressurized cabin. It was learned this week.

The pressurization will provide a sea-level cabin atmosphere at 7000 feet and will include provisions for refrigeration and air conditioning.

According to unofficial estimates, cabin pressurization will increase the direct operating cost of the Model 240 from 4 to 5c per airplane mile, although engineers making these estimates stress that they are necessarily based on numerous assumptions since no actual experience criteria are available.

Whether the incorporation of cabin pressurization will increase the dollar value of the American-Convair contract is not known. The original price announced by the two companies for 100 aircraft was \$18,000,000, or \$180,000 per aircraft, but it is understood that the pressurized version will be priced at \$242,000. American expects to have its first Convair 240 in service by June, 1947.

Externally the 240 will be of all-metal stressed skin and stringer type construction using alclad aluminum alloy, and all external rivets and machine screws will be of the flush type to provide a smooth exterior surface. The wing will comprise a center section incorporating the nacelles and integral fuel tanks on each side of each nacelle, and two outer panels spliced internally to the center section. Ailerons will be of fabric covered metal construction with one irreversible trailing edge trim tab and one trailing edge spring type tab in each aileron. Flaps will be of metal covered metal construction, and of the Fowler type, hydraulically actuated. The horizontal and vertical stabilizers will be of full cantilever, all-metal construction and the rudder and elevator of all metal frame construction with fabric covering aft of the spar. The rudder will incorporate one irreversible trailing edge trim tab and one trailing edge spring type tab, while one elevator will incorporate an irreversible trailing edge tab and the other elevator a trailing edge spring type tab.

The fuselage of the 240 will be divided into a flight deck; a luggage, radio equipment and coat compartment immediately aft of this; a buffet at the rear of the luggage radio compartment; a main passenger cabin; a passenger lavatory aft of the cabin; a cargo compartment behind the lavatory; and a second cargo compartment beneath the floor forward of the wing.

The flight deck will be generally similar to that of the 110 except that the pilots' seats have been moved closer to the windshield to provide increased visibility. Provision is incorporated for heated air anti-icing of the windshield.

The luggage and radio compartment will include provisions so that passengers may deposit their own luggage conveniently when entering the aircraft, and pick it up themselves when leaving.

The main passenger cabin will seat 40 passengers in two double rows of reclining chairs, 20 passengers to either side of the fuselage. Entrance will be on the left side of the fuselage at the forward end of the cabin, and a built-in ramp will be incorporated in the entrance door. Hat racks will be provided over the seats at either side of the fuselage.

The rear cargo compartment will have a capacity of 150 cu. ft., and will be accessible through a 34x34 in. door on the right rear side of the aircraft. The forward under-floor compartment will have an 80 cu. ft. capacity with a suitable door located on the lower right side of the fuselage to provide access.

There will be no cowl flaps in the engine



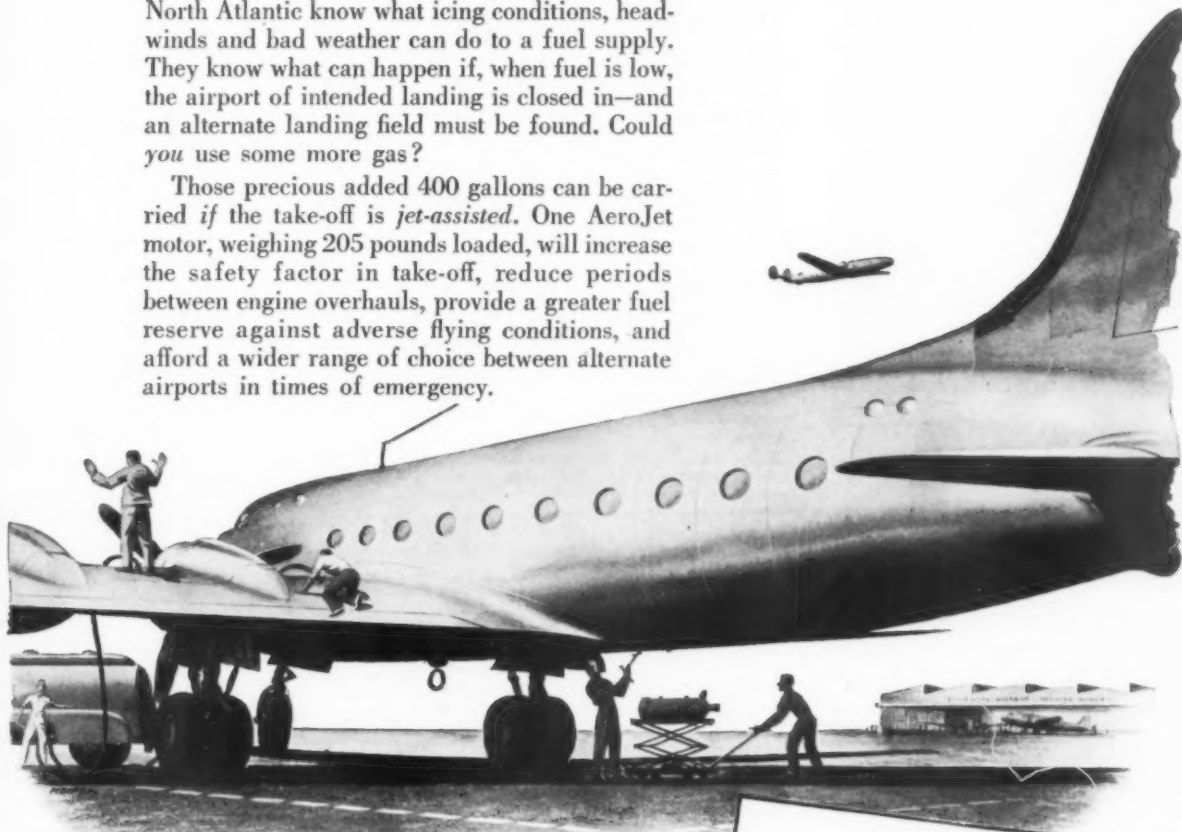
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SAY you are operating a transoceanic airline between New York and London. And say that suddenly you are permitted to carry 400 extra gallons of gasoline on top of your maximum load. Would that be a welcome stowaway on every flight?

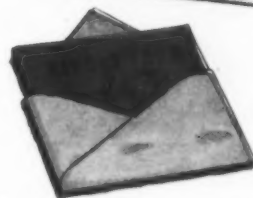
## Welcome stowaway on every flight

We think it would. Because pilots who fly the North Atlantic know what icing conditions, headwinds and bad weather can do to a fuel supply. They know what can happen if, when fuel is low, the airport of intended landing is closed in—and an alternate landing field must be found. Could you use some more gas?

Those precious added 400 gallons can be carried if the take-off is jet-assisted. One AeroJet motor, weighing 205 pounds loaded, will increase the safety factor in take-off, reduce periods between engine overhauls, provide a greater fuel reserve against adverse flying conditions, and afford a wider range of choice between alternate airports in times of emergency.



Airline operators and regulatory authorities are giving the advantages of AeroJet assistance their thoughtful consideration.



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# 'Lanac' Proposed as Solution To Traffic Control Problem

## Anti-Collision and Navigation Are Objectives of System

**O**N- AND OFF-airway short-range navigation and collision prevention, rather than instrument approach and landing, are the primary objectives of the Laminar Air Navigation and Anti-Collision System now being proposed as an immediate solution to the air traffic control problem by Hazeltine Electronics Corp.

Designated "Lanac," the new system is based on Hazeltine's military IFF developments which were used by the Army for navigation, as well as identification in Alaska and the Aleutians, and consists of two basic units—an interrogator-responder or challenger equipped with a visual L-scope display, and a reply device or transponder. In effect, each of these units consists of a radar transmitter-receiver combination, the difference being that in the challenger the transmitter is a master or independent unit, while in the transponder it is a slave unit which operates only when it is triggered by a signal picked up by the receiver.

In operation, a coded signal is sent out by the challenger transmitter, the coding or time separation of the pulses depending on the altitude at which the aircraft is flying. This signal is then picked up by the transponder receiver units of all other aircraft within range in that particular altitude lamina, and in turn triggers the transponder transmitter units causing them to broadcast a return signal which is picked up by the challenger receiver and displayed on the L-scope to give the range and azimuth of the answering aircraft.

Since each aircraft under the system is equipped with both a challenger and a transponder, dual protection would be offered at all times, and even if one pilot ignored his scope or was busy investigating other altitudes, his exact whereabouts still would be known to all other aircraft at that general altitude.

To adapt the LANAC system for air-ground collision warning, according to

Hazeltine, it would be necessary only to mark mountains, high buildings and other hazards with transponder beacons just as many of them are now marked with obstruction lights. In some cases, it is pointed out, it would actually be easier to install the transponder than lights, as for example on high mountains where the actual summit is practically inaccessible, and the transponder can be located down near the base and coded to reply at the summit altitude.

For route navigation with LANAC the same airborne challenger unit would be used as for collision warning, but special provision would be made in the manual control for transmitting a beacon challenge code which would trigger all beacons regardless of the altitude of the challenging aircraft. The beacons, corresponding to airborne transponders, but transmitting a special width coded pulse, would be located at suitable intervals along the route much as present day omni-directional ranges. To get his exact location, it would be necessary for the pilot to switch his challenger to beacon challenge and look up the identity of the coded pulse appearing on the L-scope in a beacon code book. Both azimuth and range would be given by the scope display.

Finally, the LANAC system can be adapted further to provide a complete centralized airport control system. Once again the airborne equipment remains the same except that the transponder is equipped to flash a light on the instrument panel when it is being challenged, and to respond with a series of short and long pulses which can be interpreted by Morse code to identify the airline and flight. Provision also is made in this slow coding mechanism for emergency coding.

Ground equipment for airport control consists of challengers with display equipment both at the airports themselves and at remote check points so that the airport controller can keep track of aircraft even when they are outside the range of the airport challenger. Interrogators of these ground units can be coded by any desired altitude code.

### Second of a Series

This is the second of a series of eight articles dealing with all-weather proposals. The next will appear in the April 1 issue of AMERICAN AVIATION.

In operation, the airport challenger, through its highly directive antenna, would scan the surrounding area, rapidly interrogating all desired altitudes in succession and displaying the answers from each separate altitude lamina on a separate PPI scope. At the same time information from remote check points would be phoned in to the control center and spotted on a map of the surrounding region. Thus the traffic controller would have at his finger tips not only the azimuth, range, elevation and identity of all equipped aircraft within the controlled area, but also could determine the identity and location of all equipped aircraft in the surrounding region.

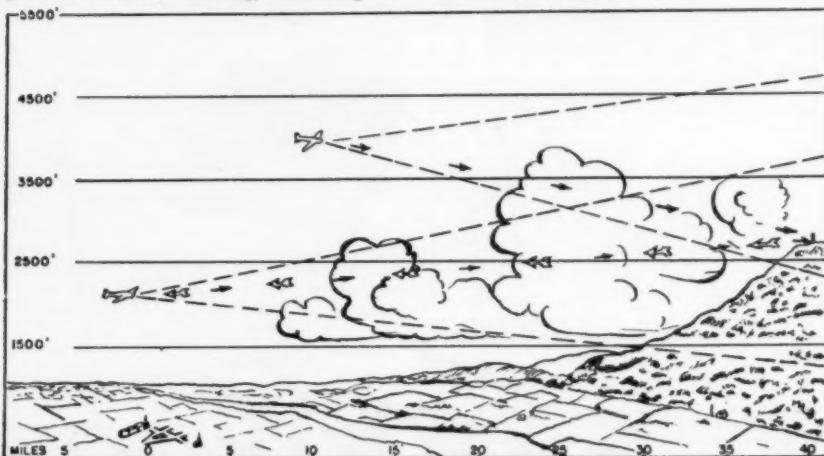
In offering LANAC at this time, Hazeltine stresses that it is based on war-tested principles and could be installed and placed in operation within a year. Both the challenger and transponder units are presently available, and a device similar to the proposed automatic altitude coding mechanism is now used in radiosondes. While this device is fairly fragile, its manufacturer has assured Hazeltine that it can provide a device to meet Lanac specifications.

Total weight of airborne equipment for the combined anti-collision-navigation-traffic control system is 215 lbs. as follows: challenger equipment, 65 lbs.; display, 35 lbs.; aneroid altitude coder, 8 lbs.; challenger antenna, 20 lbs.; transponder, 50 lbs.; transponder antenna, 2 lbs.; and interconnecting cables, 35 lbs. Power required is 650 watts of 115 volt 800 cycle AC and 150 watts of 24 volt DC.

A safe range of 50 miles is predicted, and with expanded sweeps Hazeltine estimates distance discrimination of a few yards. With the L-type lobe switched display, it states that azimuth accuracies of better than 5 degrees are possible with the antenna pointing dead ahead; but due to the lack of symmetry of the aircraft reflecting surfaces, no better than 15 degree accuracy for off-course bearings can be expected. While this is sufficient for anti-collision purposes, Hazeltine engineers admit it may be necessary to swing the aircraft or estimate the relative deviations of two forward beacons in navigation.

No provision is made in the present Hazeltine system for instrument landing procedures, but Hazeltine engineers are now working on an instrument landing system utilizing the same basic airborne equipment. This system, however, is definitely in the early developmental stage, and is not therefore being pushed at this time.

The principal objections raised to the Hazeltine proposal at the recent all-weather conference were inaccuracy of the L-scope type of presentation, and the fact that it made no provision for unequipped aircraft. As to the first of these objections, it was pointed out that a PPI or other type of presentation could be used should it prove desirable. As to the second, Hazeltine engineers admitted its validity, but showed that in this respect it does not differ from most other proposed systems which will rely on ground radar surveillance for such aircraft.



**Obstacle Marker Operation**

Transponder beacon on obstacle replies only to aircraft below obstacle summit.

# United Installing 'Black Boxes' In All Four-Engine Equipment

## Automatic Features of Device To Be Used for Approach Only

**A**Doption of the armed services' famous "black box" to reduce still further the weather obstacle in commercial operations was announced last fortnight by United Air Lines.

The announcement stated that United will begin immediately to equip its Mainliner "230s" (Douglas DC-4s) with Sperry electronic automatic pilots, incorporating automatic airport approach controls, and expects to complete the installation on all four-engined Mainliners by summer. Similar equipment, it added, will be standard on the Mainliner "300s" (Douglas DC-6s) expected to go into service later this year. The new electronic pilots will replace hydraulic automatic pilots used in the past.

By adopting the electronic autopilot coupled with automatic landing controls at this time, United becomes the first commercial airline to take advantage of

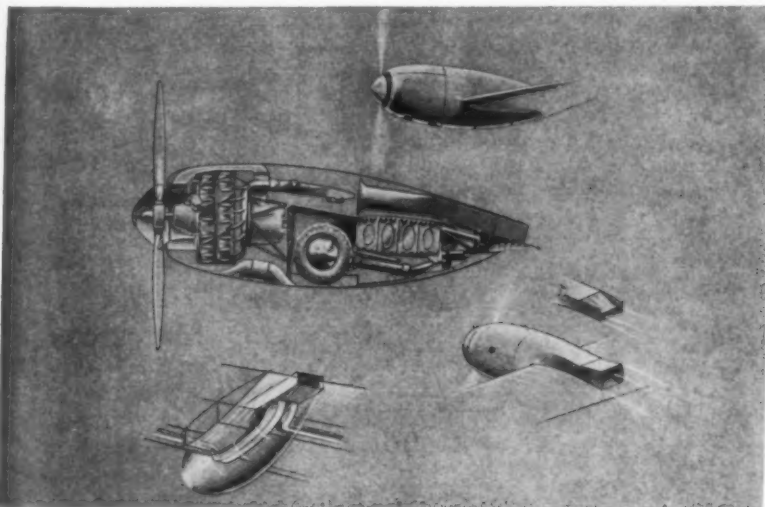
war-developed automatic flight techniques, and its service experience with this equipment may prove an important factor in determining the type of all-weather flying system that will be adopted ultimately both nationally and internationally.

United stresses that the new equipment in no way is intended to dispense with the human pilot, but on the other hand, is expected to give him more time for flight planning and other flight duties. According to present plans, the automatic features will be used for approach only, picking up localizer and glide path signals of the standard SCS-51 approach system. The descent will be made at a rate of about 300 ft./min. and will be monitored throughout by the human pilot by means of the standard cross-pointer indicator and other standard instruments. At a point precisely over the end of the runway, the human pilot will take over control once again and land the aircraft in the normal manner.

## Manifolding System Provides 135 Lbs. of Jet Thrust

**T**HE NEW exhaust pump manifolding system designed by Consolidated Vultee Aircraft Corp. for its Model 110 and Model 240 transports will produce 135 lbs. of auxiliary exhaust jet thrust per engine at normal cruising speeds at 8,000 ft. altitude, a Convair engineer informed AMERICAN AVIATION last week. This figure, he said, is based on actual laboratory demonstrations, and is not just an engineering estimate. (Note Story on Page 46).

Basically the new system comprises a venturi tube exhaust pump in which hot air from the exhaust heats the cooler engine cooling air, expanding it and forcing it out through a nozzle at the rear to produce jet thrust. The pumping action of the venturi tube augments the quantity of cool air drawn in over the cylinders



to provide complete cooling even when the propellers are in reverse position, while at the same time eliminating the need for cowl flaps and permitting a cleaner more streamlined nacelle. A waste-gate is provided in the jet nozzle at the rear of the nacelle, which in case of fire can be closed, completely cutting off air flow through the nacelle. Thus the new system increases safety as well as operating efficiency.

Principal disadvantage of the exhaust pump system is the noise resulting therefrom, but Convair is understood to have developed soundproofing methods to meet this as far as cabin and cockpit are concerned. While this installation was designed primarily for the 240, it will be incorporated in the prototype 110 which is expected to be flying within the next 30 days.

## Smoke Hazard Needs Attention, Says Pilot

Industrial smoke has become the major obstruction to visibility and hence the greatest single factor affecting all forms of flight, according to J. D. Henry, a captain for American Airlines.

"In much of our clear weather it is necessary at many of our cities to give the equivalent of instrument protection and separation between aircraft because industrial smoke restricts visibility so severely. Mass flying by the private



Photo shows a typical smoke condition at Cincinnati. Horizontal line is the smoke level, the elevation above which dirt cannot maintain suspension—4000 feet in this instance.

owner under such conditions would be impossible," says Capt. Henry.

The American Airlines pilot points out that the smoke condition is by no means isolated to a few of the larger cities, but is prevalent wherever industrial operations are carried on.

"Flying in the rarely clear air aloft, during all of the varying conditions of visibility, the airline pilot cannot help but observe the major sources of smoke. Among the more obvious ones, I would list the following:

"(1) Electric light and power stations. I list them first because they exist in nearly all cities and therefore do widespread harm.

"(2) Steel mills are a very serious offender. They are more severe than power plants, but are not quite so numerous. In clear weather the steel mills bordering along the Great Lakes often reduce visibility over widespread areas to instrument conditions.

"(3) Other smaller offenders when taken as a whole contribute considerably and must not be overlooked in attacking the problem. They are refineries, coke ovens, large incinerators, peat beds, conflagrations of all kinds, homefires, small industry, railway steam locomotives, and leaf burning in the fall."



# Miami Airport Controversy Takes on National Significance

## Dispute Centers Around Proposed Master Plan

**D**EVELOPMENT of adequate facilities for both commercial and personal aviation in the greater Miami area, which started out as a purely local political battle, is rapidly taking on an aspect of national significance because of the issues involved and the precedential effect their ultimate decision may have on the establishment of airports and airparks throughout the country.

Recent moves include the drawing up and publication of a county-sponsored master plan for airport development; a decision by the Florida Air Pilots Association overruling the county commission's refusal to grant a permit for the proposed Stengel Airport and declaring in part that the airplane is not a nuisance; and a petition filed by the Florida Air Pilots Association requesting a grand jury investigation of the past, present and intended actions relating to airports of the County Commission of Dade County.

While the controversy to date has centered around (1) the Stengel Airport and (2) the proposed master plan, a spokesman for the Florida Air Pilots Association informed *AMERICAN AVIATION* that the basic issues go much deeper and include such questions as whether airport sites are to be selected for utilitarian or political reasons, whether they are to be developed with private capital or public funds, and if the latter is the case, whether they are to be placed on a self-sustaining basis or to be considered as a justifiable taxation expenditure.

### 15 Airports Called For

The master plan calls for the development of some 15 airports for non-scheduled and personal aircraft at specified sites. It further states that possible development of many of these airports might be undertaken by private interests, and suggests amendment of county and municipal zoning regulations to permit construction of these fields by any firm or individual complying with regulations.

In direct contravention to this, the FAPA grand jury petition points out, the Port Authority has opposed at every turn the construction of these needed airports, and in the case of the Stengel Airport which gave rise to the Florida Supreme Court decision, went into the same general area from which it was attempting to bar private interests through zoning and purchased a section of land assessed on the county's own books at \$16,000 for approximately \$145,000.

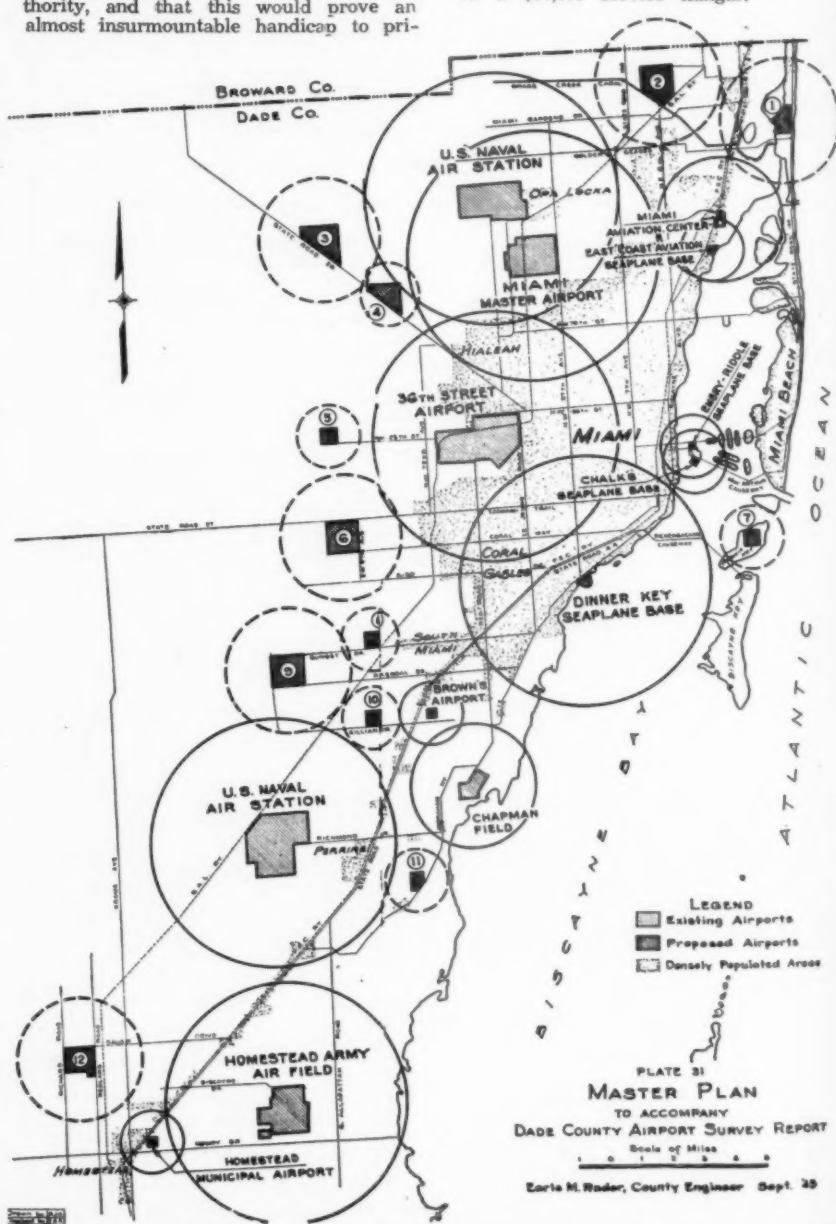
On the question of proposed sites, as shown in the accompanying map, an FAPA spokesman pointed out that a majority were unsuitable for personal airports. Two of the 15, he stated, were two feet below water level, a third was directly on the main instrument approach line to the 36th St. commercial airport, a fourth was on beachfront property which might cost up to \$5,000,000 for the land alone, and many of the others were so far from the city proper as to render them useless to the itinerant or flying tourist.

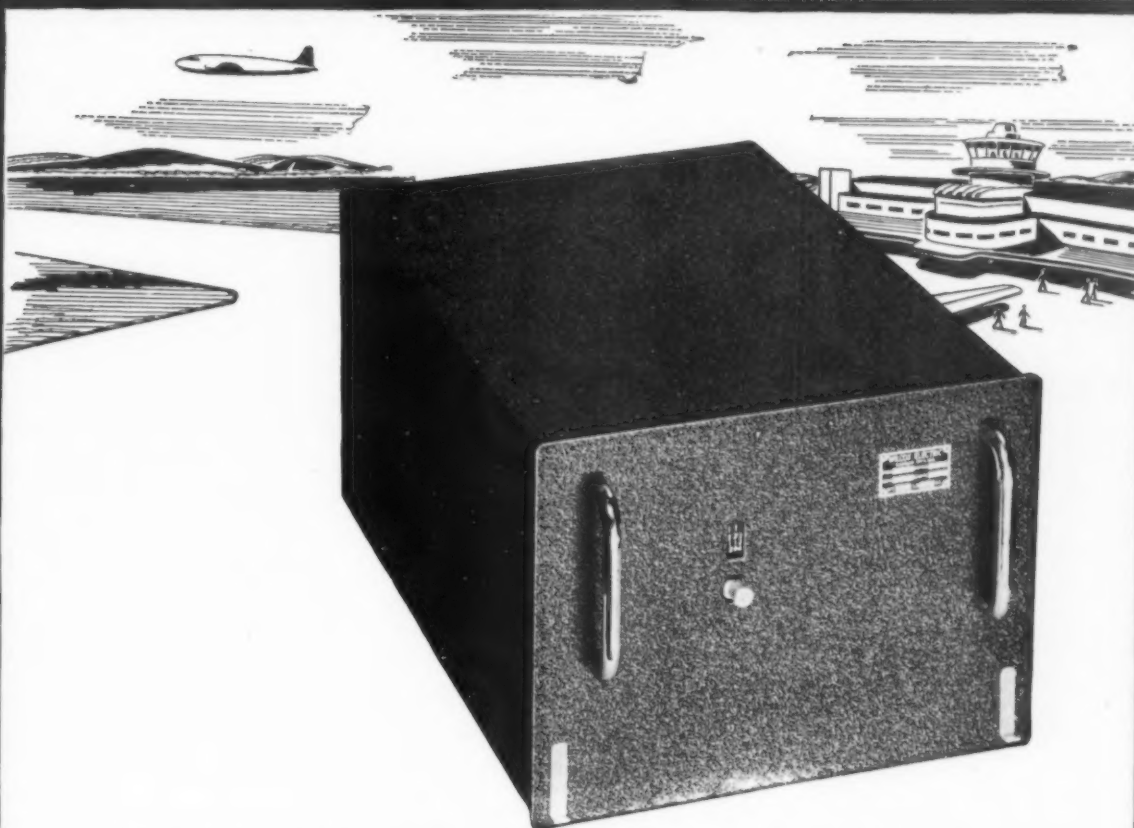
Turning to the development of those sites which are to be developed with public funds, the FAPA petition states that the Port Authority has admitted that it intends to limit its construction at any one airport to one paved and eventually one dirt runway, and that it proposes to make even this self-liquidating by "putting the gyp on every plane that lands there for a landing fee, tie-down charges, etc." and leasing space to private individuals who desire to erect their own shops, hangars, etc. In connection with this latter proposal, FAPA points out that it is almost impossible to borrow money to erect private buildings on property leased from a county or municipal authority, and that this would prove an almost insurmountable handicap to pri-

vate interests and particularly veterans.

The effect of the controversy to date has been to block effectively one of three major proposed personal aircraft centers in the Miami area—the Stengel Airport, in which private interests were reported willing to invest \$5,000,000. A second—the Carstairs Island project on which The Four Winds Air Association intends to spend more than \$1,118,000 for construction—appears headed for similar difficulties, since it is not on one of the sites designated in the Master Plan and has not yet received a permit from the Port Authority.

The one bright spot in the immediate picture is the third project—Dick Flynn's Miami Aviation Center—which has survived local opposition and made rapid progress in the last year. At the present time it offers two 2,500-ft. paved runways and 40 acres of grassed landing area. Eight individual T-hangars will be available shortly, and work has been started on a \$30,000 service hangar.





## TYPE 308A V.H.F. RECEIVER

The Wilcox Electric Co. Type 308A Receiver is a tuneable super-heterodyne receiver for aircraft, covering the range of from 108 to 132 Mc. It is particularly useful in aircraft applications involving the reception of V. H. F. radio range, control tower, or company communication signals. A degree of performance, equal in every respect to that obtained with communication receivers operating in the medium-high frequencies, is obtained by virtue of a radically new approach to the problem of stability and amplification in tuneable V. H. F. receivers.

**Dimensions:** *One ATR Width and Height, 15½" Deep.*

**Weight:** *21 pounds.*

**Connections:** *Rear mounted plug.*

**Input:** *60 ohm Transmission Line.*

**Output:** *500 ohm Dual Audio Output.*

**Output Power:** *300 Milliwatts.*

**Operating Voltage:** *12 or 24 volts, D. C.*

**Selectivity:** *Designed for 100 Kc. Channel Separation.*

**Spurious Freq. Rejection:** *60 D. B. Below Desired Signal.*

**A. V. C.:** *Less than 9 D. B. Variation from Output at Rated Sensitivity.*

**Sensitivity:** *3 Microvolts for 300 Milliwatts Output.*

**S/N Ratio:** *4/1 in Voltage at Rated Sensitivity.*

**Frequency Range:** *108-132 Mc.*



**WILCOX ELECTRIC COMPANY, INC.**

*Manufacturers of Radio Equipment*

**Fourteenth and Chestnut**

**Kansas City, Mo.**

## Milwaukee's Doorstep Highlights Flurry of Airport Developments

Establishment of a "doorstep" airport, said to be the first downtown airplane facility in any metropolitan area, was drawing interest at Milwaukee last fortnight. Set up in September, the landing area on Lake Michigan frontage is a few hundred yards from the business district.

The airport, sponsored by the city, is operated by private management. It has a turfed strip 3000 feet long and 100 feet wide, and its location permits utilization of an already established seaplane landing ramp.

These were other highlights in a flurry of airport developments:

- Love Field, Dallas, Tex., was returning to civilian use, with the Army expected to be off the installation by July 1. The city was putting in shape for Braniff Airways part of the Lockheed Modification Center, and purchased seven 130 x 160 steel hangars from War Assets Corp. Five of the hangars will be used at Love, two at Redbird, new municipal airport for non-scheduled aviation.

- Metropolitan Airport, a New Jersey Corp., headed by Henry A. Berliner, Engineering and Research Corp., board chairman, purchased from Curtiss-Wright Corp., a 1000-acre plot on the Secaucus, N. J., meadows across the river from midtown Manhattan, for development of an airport, primarily for private fliers.

- Rector E. Searles, Ogallala, Nebr., airport operator, moved to California, announced that he would set up a \$300,000 airport and country club for private fliers on a

443-acre site near Tarzana, in the San Fernando Valley.

- Port of Seattle announced that construction would get underway within 60 days on a new administration building at the Seattle-Tacoma Airport at Bow Lake. The building will cost \$2,000,000, will occupy 90,000 feet of land.

- At Springerville, Ariz., the citizenry turned out for an airport day to wind up construction of the Springerville-Eagar airport. The field is situated two miles southwest of Springerville, and is about half-way between Phoenix and Albuquerque, N. M.

- The Chicago city council finance committee released funds to make possible the transfer of the Douglas airport to the city. Present plans call for airline use of the Douglas airport instead of municipal airport. The latter showed an 80% increase in passenger arrivals and departures during February.

- Board of King County (Seattle) Commissioners has authorized Ernest R. Cluck, manager of Boeing Field, to take court action to force United Air Lines to pay the same landing fee schedule as agreed upon by Northwest Airlines and Pan American Airways. Cluck said United had paid only office and hangar rental, and not the landing fees recently rescheduled by the commissioners.

## Agency is Assembling Accurate Measure of Airport Obstructions

Coast and Geodetic Survey is undertaking for the Civil Aeronautics Administration the procurement of accurately measured data respecting obstructions surrounding some 200 airports in the U. S. as the basis for future determination

of maximum gross loads which may be flown from these fields under the Transport Category requirements.

This service will fill an airline need which was first called to the attention of CAA Feb. 28, 1945, by the Air Transport Association. When the data has been assembled and compiled for each airport, it will allow the establishment of maximum load restrictions which will be standard for various types of aircraft. It will tend to eliminate variances in gross load maximums which exist today because airlines individually have been required to determine the location and height of obstructions, and oftentimes these have been on an estimate basis, probably on the conservative side.

In actual experience, one airline has operated a Douglas DC-3 plane out of an airport with a gross load of 25,200 pounds while a competitor, with the same type of equipment and under identical conditions has carried 500 pounds less payload. The reason is a lack of accurate data on obstructions beyond the end of the runways, and in some instances is due to a difference in operating standards of individual airlines.

Commander K. T. Adams of the Coast and Geodetic Survey states that his office has six charts which are ready for the printers. Surveys have been completed at another 12 airports and they will be published soon in chart form. These charts furnish a plan and elevation view. They will be available to the airlines by purchase and turned over to the CAA for formulation of safe operating standards under the Transport Category requirements.

The surveys cover essential data in a wide radius from the center of each airport including all obstructions above the 40 to 1 glide angle. Some 38 airports have been photographed by Coast and Geodetic survey as preliminary to the more detailed survey work. The survey is being done on an airport priority basis furnished CAA by the Air Transport Association.

## Hangar Fire Losses Reach All-Time High

National Fire Protectors Association reported that airplane hangar fires in 1945 cost an estimated \$38,000,000, an all-time high in airport losses over a single year and 40 times that of 1940.

NFPA said these were principal factors contributing to serious fires:

- Too much dependence on distant public fire departments, absence of satisfactory water supply systems and mobile fire equipment where the airport is outside municipal jurisdiction, lack of engineered fire protection, inferior hangar construction, and failure to divide hangars into bay areas or divisions to limit the areas subject to fire.

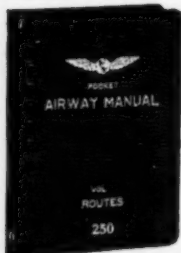
- Other contributing factors were: presence of gasoline and other inflammable liquids within aircraft stored in hangars, crowding of planes with overlapping wings in the confined area, lack of opportunity to remove quickly stored aircraft exposed to fire.

Bowling Heads Airport Division

Col. J. L. Bowling, former chief of the AAF industrial service section, production division, A.T.S.C., Wright Field, has become affiliated with Giffels & Vaillet, Inc., associated engineers and architects, Detroit, as director of the firm's airport division.

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- Fan markers, fixes, high points within quadrants, etc.

Reverse side of page shows airport drawing with runway lengths and numbers, taxi strips, obstructions, range approach beam in relation to airport, lights, tower frequencies, many other essential data. **Write for Bulletin of complete facts.**

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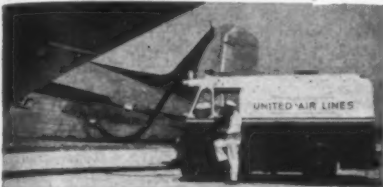




# New Equipment

## Portable Air Conditioner

Pacific Airline Equipment Co., Huntington Park, Calif. is now manufacturing a portable aircraft air conditioning unit developed by United Air Lines for the ground conditioning of aircraft. The combination heating and cooling unit mounted in a closed truck body can be attached to any aircraft, or two aircraft can be heated or cooled simultaneously. Power



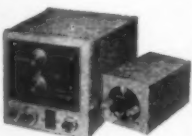
to operate fans and fuel and water pumps is supplied by the truck motor, and fuel for the heater is drawn direct from the truck gasoline tanks. The unit is said to be of sufficient capacity to raise the temperature inside an aircraft from 32-72 degrees or lower it from 100 to 85 degrees in a matter of minutes.

## Chemical Fire Extinguisher

A chemical fire extinguisher which ejects a flat stream of dry chemical under pressure is now being marketed by Pressurelube, Inc., New York 31, N. Y., under the name "All-Out." It is refillable without special tools or equipment and can be used at distances up to 18 ft.

## Ranger Postwar Radios

Ranger Aircraft Radio Division of Electronic Specialty Co., Los Angeles, has announced



a new receiver and transmitter designed for the private pilot.

The former is designated Model 116, and the latter Model 209.

The receiver is a five-tube superhet-

erodyne with automatic volume control, range filter and high sensitivity and selectivity. It covers the 195-410 kc band for range, weather and tower, and is powered by the 12v power supply in the transmitter serving as the control unit for that unit. The transmitter is a single-frequency, crystal controlled unit of new design built to provide long-range contact with a fixed antenna. As regularly furnished it transmits on 6210 kc, but optional frequencies between 1,500 and 14,000 kc are available. Weight of the 116 receiver is 2 lbs. 11 oz. and of the 209 transmitter 13 lbs. 2 oz. Both are in production with deliveries promised soon.

## Four New Kohler Valves

Four new valves for aircraft have been announced by Kohler Co., Kohler, Wis. They include a three-way flanged plug valve with  $\frac{1}{2}$ -in. internal pipe thread connections weighing 7.5 oz., a four-way flanged plug valve with  $\frac{3}{4}$ -in. internal pipe thread connections weighing 14 oz., a three-way flanged plug valve with  $\frac{1}{2}$ x $\frac{1}{2}$ x $\frac{1}{2}$ -in. tube connections weighing 8 oz., and an angle flanged plug valve available and either  $\frac{3}{8}$ -in. or  $\frac{1}{2}$ -in. internal pipe threads at a weight of 7 oz. and 13 oz. respectively.

## New Pour Point Depressant

A new pour point depressant for wax-base lubricating oils has been developed in the research laboratories of Rohm & Haas Co., Philadelphia. Known as Acryloid 150, it not only lowers the pour point of many oils effectively, but it retains the reduced pour point under cyclic temperature changes. The new material is said likewise to exhibit marked effectiveness as a viscosity index improver, thus permitting the refiner to cross-brand his oils, producing an oil which will meet both SAE 10-W and SAE 20 specifications.

## Bendix Power Brake Valve

Bendix Products Division, Bendix Aviation Corp., South Bend, Ind., has announced a new hydraulic valve for controlling application and release of power brakes on aircraft. The new unit provides means of stepping down the pressure from the accumulator pressure to one suitable for operating the brakes, as well as controlling brake application in response to the pilot's foot operation of the brake pedal. No auxiliary pressure reducing valves or hydraulic de-boosters are required.

## Williams Grip Connector

An electrical connector said to embody a new and simple principle for making quick, positive electrical contacts has been announced by Garrett Corp., Los Angeles. Known as the Williams Grip Electrical Connector, it employs no springs, slip joints or friction methods. Field tests reportedly indicate that the new device is applicable to 90% of all industry connector problems, and that it can reduce operational costs by as much as 30%.

## Hydro-Switch System



A new system for the remote control of hydraulics equipment known as Hydro-Switch has been announced by Air Associates, Inc., Teterboro, N. J. It consists of a small panel or pedestal mounted switch and a new type valve located near the equipment to be moved. Hydraulic flow rather than pressure is utilized for operation, and both weight and installation costs are said to be 50% lower than for conventional systems. It is claimed that Hydro-Switch is not limited to any particular operating pressure.

ized for operation, and both weight and installation costs are said to be 50% lower than for conventional systems. It is claimed that Hydro-Switch is not limited to any particular operating pressure.

## Wiggins "NC" Stencils

Two new types of stencils for applying the NC number to the wing and tail surfaces of aircraft have been placed on the market by E. W. Wiggins Airways, Inc., Norwood, Mass. The first type is for use on tail surfaces and is coated with an adhesive identical to that used on masking tape, while the larger wing stencils are uncoated and attached with masking tape. The stencils are so cut that no measuring of any kind need be done, and "connecting links" such as found in ordinary stencils are entirely absent. Wiggins reports that with the new stencils it is possible to apply the NC number on both sides of a tail fin in less than an hour, as against eight hours required using previous methods.

## Waveflex Flexible Waveguides

A flexible waveguide for microwave electronic equipment, trade marked Waveflex, is being offered by Titeflex, Inc., Newark 5, N. J. Constructed of an all-metal flexible tubing, it is said to be the first flexible waveguide with an electrically continuous wall. Waveflex assemblies are produced in all the standard waveguide band sizes and lengths listed by the Army-Navy R. F. Cable Coordinating Committee.

## Technical Booklets

Luria Engineering Corp., 500 Fifth Ave., New York 18, N. Y., has released a booklet, "Airports by Luria," covering the complete service offered by the company. The booklet also features Luria's Standard Production Built Hangars.

Recording the latest developments in the field, the new "Electronics Digest," carrying articles on Stratovision, Mot-O-Trol, fluorescent lighting, electrolytic tin plating, X-Ray inspection, and electrostatic air cleaning, is announced by Westinghouse Electric Corp. Copies of the 50-page illustrated booklet, to be issued quarterly, are available from the company, Box 868, Pittsburgh, Pa.

To aid airport dealer stores, Firestone Tire and Rubber Co. has issued a retail catalog which serves as an information booklet and also can be used by dealers as direct-mail advertising. The catalog lists such items as aircraft tires, tubes, wheels, brakes, brake linings, aircraft dopes and finishes, tools, instruments, clothing and other accessories.

"Plane Portraits," a 28-page color-illustrated booklet containing a series of articles on aircraft cleaning by the editors of "Air Tech," is now available on request from Turco Products, Inc.

A new catalog entitled "Diversity Receiving Equipment" has been issued by Schuttig & Co. It describes electronic receiving equipment designed to overcome fading in radio communication.

The A-12 Gyroplot is described in full technical detail in a new hard-bound brochure now available from Sperry Gyroscope Co. Illustrations include photographs and cutaways of the A-12 and its components and fully dimensioned outline drawings of all parts.

A 24-page illustrated bulletin containing data and descriptive information on its complete line of portable AC test sets from 2,000 to 150,000 volts is now available from General Electric Co.

A booklet on Vibration Testing and Vibration Test Equipment is being offered by L.A.B. Corp. Various test stands and tables are described and illustrated.

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1 BEEHCRAFT 18S	105 hrs. since new
2 Cessna UC-78	Beautifully Finished
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# Engineering Preview

CONSOLIDATED VULTEE Aircraft Corp. is proposing a specially designed aircraft for combined passenger and pick-up service to All American Aviation. It would be powered with two Pratt & Whitney Wasp Jr. engines and carry eight passengers with and 10 without pickup equipment. All of which would seem to indicate that Convair does not intend to overlook the feeder transport field.

Too free use of the terms "jet propulsion" and "jet assist" by both airline and industry publicity agents can only succeed in confusing the flying public and causing true jet propulsion to be discounted when it finally does arrive. Recently the Republic Rainbow, Convair 240 and Martin 303 have all been billed either by the companies, their customers or over-enthusiastic newspaper men as jet propelled or assisted, thus leading the unsuspecting public to think in terms of the P-80 or at least Jato, where actually none of the three does more than augment and direct the exhaust flow from standard reciprocating engines to produce some jet thrust together with other advantages. It has been estimated that both Convair and Martin will pick up more speed through the elimination of cowl flaps in this arrangement, and the resulting cleaner nacelle design, than they will from the 135 lbs. or so of jet thrust produced by each engine. At 375 mph, 135 lbs. of thrust is equivalent to 135 hp, but at the lower speeds at which these transports will travel, it is considerably less.

Much closer to a true jet is the United Air Lines cargo transport just announced by Glenn L. Martin Co., but even this should be classified as a propeller-driven, turbine-powered aircraft with some auxiliary jet thrust, since the propellers will be the primary propulsive source and the jet will be little more than a means of utilizing the exhaust gases after they have passed through the propeller driving turbine. Presumably the Martin-UAL ship will be powered with G-E Propjet engines, since this is the only propeller driving turbine test-flown to date in this country.

Despite the jet publicity which has been given to these "semi-jet" types of aircraft, one airline engineer recently expressed the opinion that true turbo-jet powered aircraft would be in actual airline service long before the propeller driving turbine type. He based this assertion on the fact that the jet turbine today is in a far more advanced development stage than the propeller driving turbine, and that preliminary designs had been drawn up by his airline for a turbo-jet powered transport which can be built just as soon as a jet turbine of sufficient reliability is made available, and which can be operated from present "DC-3 fields" even more economically than the DC-3.

As to true jet assist or Jato, opinions are still divided as to its potential application to commercial transport. Proposed uses include shortening take-off runs for large multi-engine types, and emergency application on twin-engine types to meet CAR one-engine inoperative and maximum altitude take-off requirements. And recently a patent was granted to Louis T. E. Thompson and Robert H. Goddard for the use of strategically located rockets (similar to Jato units) as an emergency control mechanism.

SYDNEY CARTER.

## Radical Six-Cylinder, 216-Pound Powerplant Planned by Herrmann

Development work on a radical 216-lb. aircraft engine, which has developed 150 hp without and 270 hp with supercharging, has a diameter of only 12¾ in. and a length of 35 in. without accessories, and uses only 40% as many moving parts as the conventional engine, has been resumed by the Herrmann Engineering Co., Glendale, Calif.

A six-cylinder experimental model has been assembled from old parts tested on the dynamometer and is now mounted on a torque stand ready for testing as an aviation engine.

The company also has plans for a 2,300 cu. in. engine of the same general design which will have a diameter of 23 in., will weigh under 1,500 lbs., and will develop 1,800 hp at 1,500 rpm at sea level.

Basically the Herrmann powerplant is what is known as a cam engine in that

it employs a piston-cam, rigidly mounted on a shaft, and actuated by double-ended pistons in place of the connecting rod arrangement of the conventional reciprocating engine. Contact between pistons and main cam is by means of trunnion rollers.

Bore of the cylinders is parallel to the crankshaft, and valve tappets are driven directly from main shaft valve cams. Portions of the cylinder barrels are cut away to make room for the main cam, thus doing away with the need for a separate crankcase.

Advantages claimed for the new design include simplicity of manufacture which should result in lower original costs as well as reduced weight, reduced frontal area and a 60% reduction in moving parts. Parts required in the conventional engine which are eliminated in the Herrmann design include main bearing caps and bolts, crankcase, connecting rods, caps and bolts, timing gears, cam shafts, vibration dampers and complicated valve assemblies. Speed reduction is inherently two to one without reduction gears or other mechanisms due to the employment of double acting pistons.

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THE ultra in parachute design is embodied in the Pioneer P3-B 'chute. Soft, compact, body-hugging and flexible, it is 20% lighter in weight, occupies 50% less seating space and is equipped with the Pioneer foul-proof, fool-proof pilot chute for instant positive performance! And now the P3-B has the new Pioneer Quick-Fit Harness, enabling the wearer, regardless of his size or weight, to adjust the harness into a perfect fit in less than three seconds. Here then, is the best in parachute equipment developed by the leaders in the industry.

\*Patents applied for in U. S. and all principal countries throughout the world.



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# AA Completes Arrangements For \$25 Million Financing

**Carrier Also Files With SEC  
For 97,350 Common Shares**

**A**ERICAN AIRLINES last fortnight completed arrangements for interim financing through the medium of bank loans totaling \$25,000,000 in which 54 banks located in 33 cities on the airlines' system will participate. Proceedings of the loan will be utilized for the purchase of aircraft and for other capital commitments.

The group of participating banks is headed by Chemical Bank & Trust Co., New York; First National Bank of Boston; First National Bank in St. Louis; Continental-Illinois National Bank & Trust Co., Chicago; and Bank of America National Trust & Savings Ass'n, Los Angeles.

American also filed a registration statement with the Securities and Exchange Commission for 97,350 shares of common stock in connection with the proposed merger with Mid-Continent Airlines. It is proposed that stockholders of Mid-Continent be offered one share of the American common for each four of Mid-Continent.

Other developments among the airlines included:

- A recommendation by the board of direc-

tors of Eastern Air Lines that Eastern issue to common stockholders four shares in exchange for each share currently held, and that authorized capital stock be increased from 1,000,000 to 5,000,000 shares. The company would increase its presently outstanding stock from 600,000 to 2,400,000 shares.

- Northwest Airlines reported net income of \$216,602, or 40c a share, for the quarter ended Dec. 31, 1945. This compared with a net income of \$171,548, or 48c a share, for the same 1944 quarter.

- Continental Air Lines announced a dividend of 15c per share, payable Apr. 1, 1946, to stockholders of record Mar. 5, 1946.

- Latin American Airways, Inc., has filed a prospectus with the Securities and Exchange Commission covering 99,166 shares of common stock at \$1 par value. The fund is to finance acquisition of equipment and personnel to operate a passenger and freight service in Ecuador.

- Meanwhile, the Civil Aeronautics Board's annual report disclosed that the domestic airlines realized a net income before taxes and non-operating items of about \$43,000,000, and a net profit, after allowing for those items, of about \$20,000,000 for the fiscal year ended June 30, 1945. Earned surplus increased to slightly more than \$59,000,000. The international carriers showed a net loss for that period of about \$1,400,000, subject to adjustments for additional mail compensation.

These were developments among the manufacturers:

- Stockholders of Globe Aircraft Corp., Ft. Worth, approved a recapitalization plan authorizing the company to offer 150,000 shares of \$10 par 5½% convertible preferred stock to common stockholders on a pro rata basis of \$9 per share. The estimated \$1,275,000 in proceeds from the preferred offering will be used to provide \$250,000 in additional plant facilities and to retire a \$960,000 RFC loan, for working capital and other expense of the issue.

- Stockholders of Brewster Aeronautical Corp., will meet in Long Island April 5 to vote on the proposed dissolution and liquidation of the company. Net book value of company stock, based on the Oct. 31, 1945 balance sheet, is about \$4.91 a share, but this is not the liquidating value of the stock.

- Irving B. Babcock, president of Aviation Corp., and chairman of the board of Consolidated Vultee, was named chairman of the board of Hall-Scott Motor Car Co., at an adjourned meeting of stockholders in Berkeley, Calif. Other officers named were R. R. Monroe, president; V. C. Schorlemmer, vice-president; W. E. Henderson, vice-president; R. B. Watts, secretary; M. A. Hardie, treasurer. The election completed Convair's recent purchase of control of ACF-Brill Motors Co., and its wholly owned subsidiary, Hall-Scott Motor Co.

- Directors of Glenn L. Martin Co., voted to put the company on a quarterly dividend basis and declared a quarterly dividend of 75c a share payable Mar. 18 to stockholders of record Mar. 8.

## Airlines Earnings Behind

U. S. airlines' fourth quarter earnings for last year ran behind those of the same 1944 quarter, and first quarter earnings of this year are also lower than those of a year ago, stockholders of National Aviation Corp. were told by Frederick F. Robinson, president.

## Financial Comment

by  
**I. W. Burnham, II**  
of  
**Burnham & Company**

Members of New York Stock Exchange

**P**RESENT and prospective holders of airline securities are very much interested in the plans of airline managements to finance their commitments for new aircraft and additional ground installations. Recent surveys reveal that the total combined expenditure and purchase commitments of U. S. airlines were \$335,000,000 in mid-February and are expected to reach \$500,000,000. It is believed that the greater part of this equipment can be delivered by December 1947.

Since V-J Day, U. S. airlines have raised approximately \$77,000,000 to finance their commitments. Of this amount \$70,000,000 was in the form of fixed debt (bonds and bank loans)—the balance being equity financing. The obvious inference which one must make from these moves indicates that airline management does not wish at present to further dilute the owner's equity if it can possibly be avoided.

The aviation industry has always kept as far away from the pitfalls of debt as it could—and wisely. The unfortunate experiences of many corporations, heavily loaded with debt, in the early thirties is too recent to be forgotten.

It seems to me that airline management is at the crossroads. Decisions must now be made on the percentage of debt to equity capital ratio. Unquestionably, a certain amount of debt can properly be incurred if adequate provisions are made to reduce the total as the equipment wears out. It is unsound to count on refinancing debt with additional fixed obligations.

Airline managements should give close attention to the capital structures of some of the reorganized railroads. Set up with an eye to past experience, these structures have now been balanced to avoid a disproportionate amount of fixed debt.

The net result of a proper apportionment between fixed and equity capital will not be immediately popular with common stockholders. Dilution is never popular—particularly in times like the present when money is so easy to borrow at attractive rates. However, present airline commitments indicate that managements will resort to fixed obligations, preferred stocks, and common stock. It is hoped that the percentage of fixed debt to total capitalization is kept well within the bounds of conservatism.

## To Vote Again on Merger

Northeast Airlines stockholders have been called to meet again Mar. 19 at Logan Airport, Boston, to vote on the proposed merger with Pennsylvania-Central Airlines, it was announced following a meeting Mar. 6, called for the same purpose.

Although sufficient favorable proxies were received at the first meeting, Northeast said, the second meeting was called to remove questions as to the validity of the small number of proxies received.

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# Leading Aviation Securities (Courtesy of Burnham & Co.)

NEW YORK STOCK EXCHANGE

	1916		Range for 6 Days Ended 2-23-46		Range for 6 Days Ended 3-2-46		Two Weeks Net Change
	High	Low	High	Low	High	Low	
Airlines	86 1/4	71	80 1/8	73 1/2	76	71 3/4	- 8 1/2
American Airlines	34 3/8	26 1/2	31 1/8	28	29 1/2	26 1/2	- 4 1/2
Branniff Airways	123 1/2	98	112	102	107 3/4	101	- 12
Eastern Air Lines	34 7/8	27 3/8	32 1/8	28 1/2	30	27 3/8	- 3 3/4
National Airlines	56 1/2	45	50 1/2	46 3/4	49	45 1/2	- 4 1/2
Northwest Airlines	27	20 3/4	24 3/4	22 3/4	23 3/4	20 3/4	- 2 7/8
Pan American Airways	45 3/4	36 1/2	40 7/8	39 1/8	39	36 1/2	- 4 3/8
Penn.-Central Airlines	71	56 1/2	64	61	60 1/2	56 1/2	- 7
Trans. & Western Air	54 1/4	42	47 1/2	43 1/4	45	42	- 4 3/8
United Air Lines	179	143	154	145	149	143	- 15
United Air Lines pf.	35	26 1/2	31 1/4	28 1/2	28 1/2	26 1/2	- 4 1/4
Western Air Lines	14 3/8	9 3/8	14	12 1/8	13	12	- 1 3/4
Manufacturers, etc.	83 1/2	59 1/4	78 3/4	72 1/4	74	70	- 12
Aviation Corp.	23 3/8	14 1/8	21 1/8	19 1/2	23 3/8	20 3/8	+ 3 3/8
Aviation Corp. pf.	35 1/2	26 1/8	30 7/8	29	30 1/2	27 1/4	- 4 1/2
Beech Aircraft	58	51	56	51 3/4	54	51	- 5 7/8
Bell Aircraft	33 3/4	26 1/2	31 1/2	28 1/8	28 3/4	26 1/2	- 3 1/2
Bendix Aviation	33 3/8	26 3/4	31 1/4	28 1/8	29 3/8	26 3/4	- 3 1/8
Boeing	38	29 3/8	34 1/4	31 1/2	32 1/2	29 3/8	- 2 3/4
Cons. Vultee	24	17 1/2	22 7/8	20	21	18 5/8	- 3 5/8
Cons. Vultee pf.*	12 1/8	7 3/4	11 3/8	9 3/8	10 3/8	9 1/4	- 1 1/2
Curtiss-Wright	34 1/8	27	32 3/8	29 1/4	31	28 7/8	- 2 1/4
Curtiss-Wright 'A'	101 1/4	90 1/2	99 1/2	93 1/8	95 1/8	91	- 8 1/4
Douglas Aircraft	52	42	47 3/4	44	45 3/4	42	- 6
Grumman Air. Eng.	45 1/4	35 1/4	41	37 1/4	39	35 1/4	- 3 5/8
Lockheed Aircraft	45 1/2	37 1/4	42 1/2	37 1/4	40 3/4	38 1/2	- 1 3/4
Martin, Glenn L.	28 3/4	23 1/4	27 1/2	24 1/2	25	23 1/4	- 4 7/8
National Aviation	16 3/8	13 1/4	16 1/4	14 7/8	15 3/8	13 1/2	- 2 1/8
North American Aviation	21 3/8	15 3/4	21	18 3/4	19	17 3/8	- 2 1/8
Republic Aviation	40 1/2	33 1/8	37 1/4	35	35 7/8	33 1/8	- 3 3/8
Sperry Corp.	37 3/8	31 3/8	35 3/8	31 3/8	33 1/4	31 1/2	- 3 1/2
United Aircraft	106	91	98 1/2	95	95	94	- 8
Wright Aero.							

\* Called for redemption March 1, 1946.

## NEW YORK CURB EXCHANGE

Colonial Airlines	43	27 1/4	32 7/8	29 1/2	31 3/8	28	- 4 1/4
Northeast Airlines	21 7/8	18	20	18 1/4	19 7/8	18	- 1 1/8
Pan American Air. war.	14	9 1/2	11 1/2	10	11 1/8	9 1/2	- 1 3/4
Manufacturers, etc.							
Aero Supply 'A'	22 3/4	21 1/8	....	....	21 7/8	21 7/8	....
Aero Supply 'B'	7 3/4	5 3/8	7 3/8	6 3/4	7 1/2	6 7/8	- 3/4
Air Associates	23 1/2	15	23 1/4	21 1/4	20 3/4	19 1/2	- 3 1/2
Air Investors	5 3/4	5 1/4	5 1/2	5 1/2	5 1/2	5 1/4	- 1/4
Air Investors cv. pf.	....	....	....	....	50*	39*	....
Alreon Mfg.	17 1/2	13 3/8	16 1/4	14 1/8	15 3/8	13 5/8	- 1 3/4
Alreon Mfg. pf.	22 3/4	17 3/4	20 3/4	19	20	17 3/4	- 1 3/4
Aro Equip.	27 1/2	22	25 1/8	23 3/8	23 1/2	22	- 3
Bellanca Aircraft	9 1/2	6 3/4	9 1/8	8	8 1/2	7 5/8	- 1 1/2
Breeze Corp.	31 1/2	21 1/8	30	24 1/2	27	25	- 4 1/2
Brewster Aero.	5 1/2	4 7/8	5 1/2	5 1/8	5 3/8	5	- 1/2
Cessna Aircraft	10 1/8	6 1/4	9 7/8	8 1/4	9	8	- 1 1/4
Fairchild C. & I.	17 3/4	13 3/4	17 1/2	16 1/4	17 1/2	15 1/8	- 1 3/8
Fairchild E. & A.	8 3/8	5 3/8	8 3/8	7 1/8	8	7	- 7/8
Fairchild E. & A. pf.	115	78	115	101	106	101	- 14
Irving Air Chute	13 1/2	11	12	11 1/8	11 1/2	11	- 3/4
Northrop Aircraft	13 3/8	10 7/8	13 1/2	12	12 1/4	10 7/8	- 1 3/8
Piper Aircraft	15 1/4	7 3/8	13 1/4	10 1/8	12 1/2	11 1/8	- 1 3/8
Roosevelt Field	6 7/8	5 3/4	6 3/4	6 1/4	6 3/4	5 3/4	- 1 1/4
Ryan Aero.	10 1/8	8 3/8	9 7/8	9	9 1/8	8 3/8	- 7/8
Solar Aircraft	23 7/8	17 3/4	23 1/2	21	22 1/4	20 3/4	- 3 1/8
United Aircraft Prod.	29 1/2	23	27	23 1/4	24 3/8	23	- 2 1/2
Waco Aircraft	9 3/8	6 1/4	9	8 1/8	8	7 1/8	- 1 1/4

\* No trading—last bid and asked prices.

## OVER-THE-COUNTER

	February 23, 1946		March 2, 1946	
	Bid	Asked	Bid	Asked
Airlines				
Air Cargo Transport	6	6 3/8	7 1/4	7 1/2
Alaska Airlines	11	12 3/4	10 1/2	11 1/4
All American Aviation	13 1/2	15	13 1/2	14
American Overseas Airlines	75	79	72	76
Chicago & Southern Air Lines	26 1/4	29 1/2	27	27 3/4
Continental Air Lines	22 1/2	24 1/2	22 1/2	23 1/2
Delta Air Lines	48	52	51	52
Expressee Aereo	9 1/8	10 1/4	8 5/8	9 1/4
Inland Airlines	12 1/2	13 1/4	10 3/4	11 3/4
Mid-Continent Air Lines	16 1/2	18 3/4	16	16 3/4
TACA Airways	18 3/4	20	17 3/4	18 1/2
Manufacturers, etc.				
Aeronautical Products	77 1/8	81 1/4	71 1/2	77 1/8
Aeronca	9 3/4	10 1/2	9 3/4	10 1/4
Aircraft & Diesel	27 1/8	31 1/2	27 1/8	31 1/8
Airplane & Marine	19	26	18	20
Central Airports	1 3/4	2 1/2	1 1/2	2
Columbia Aircraft	1 1/2	1 3/4	1 1/2	1 3/4
Continental Aviation & Eng.	4	4 1/2	3 7/8	4 1/4
General Aviation Equip.	6	7 3/4	5 1/2	6 1/4
Gladden Products	3 3/8	4 1/2	3 1/2	3 7/8
Globe Aircraft	6 3/4	8	7	7 1/2
Harlow Aircraft	7 1/8	11 1/8	7 1/8	11 1/8
Harvill Corp.	4	4 1/2	4 5/8	4 7/8
Interstate Aircraft & Engine	23 3/4	24 3/4	21	23
Kellett Aircraft	5	5 3/4	4 7/8	5 1/4
Liberty Aircraft	24 1/2	25 1/4	21 5/8	22 1/2
Luscombe Airplane	37 1/8	4 5/8	4 1/8	4 3/8
Menasco Mfg.	7	7 1/2	7 1/2	8
Pacific Airmotive	13 3/4	15	15 1/4	16
Pollak Mfg.	14	15 1/2	13 1/4	14
Standard Aircraft Prod.	5	5 3/8	5	5 1/4
Taylorcraft	7 1/4	8 1/2	6 1/2	7 1/4
Timm Aircraft	3 1/2	4	3 1/2	3 3/4

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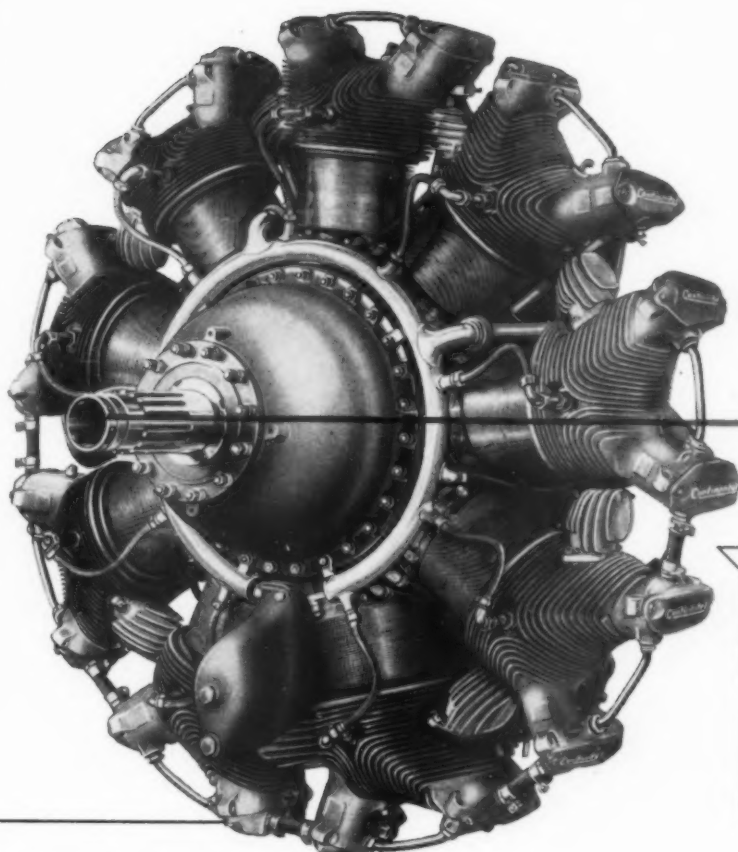
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